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ORIGINAL LECTURES.

THE CEREBRAL PALSIES OF CHILDREN.

Clinical Lectures delivered at the Infirmary for Nervous Diseases.

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LECTURE I.

INTRODUCTION. INFANTILE HEMIPLEGIA.¹

INTRODUCTION.—Dividing the motor path into an upper, cortico-spinal, segment, extending from the cells of the cortex to the gray matter of the cord, and a lower, spinomuscular, extending from the ganglia of the anterior horns to the motor end plates, the palsies which I propose to consider in these lectures have their anatomical seat in the former, and may result from a destructive lesion of the motor centres, or of the pyramidal tract, in hemisphere, internal capsule, crus or pons.

Certain general features define sharply from each other palsies of the upper and lower portion of the motor path. When the latter is affected as in the common infantile spinal palsy, poliomyelitis anterior, we have the combination of paralysis with rapid wasting, early loss of reflexes, absence of rigidity and marked changes in the electrical reactions. On the other hand, in involvement of the upper segment, when the lesion is cortico-spinal, anywhere from the motor cells of the cerebrum to the gray matter of the cord, there is paralysis with spasm or disordered movements, exaggerated reflexes, neither rapid nor extreme wasting and normal electrical reactions.

The clinical picture presented by diseases of the upper segment is very varied, depending partly on the nature, partly on the extent of the lesion; and while on certain grounds it would be preferable to classify and consider the affections on an anatomical, or, perhaps, better still, on an etiological basis, we may, for clearness and convenience, adhere to custom and classify the cases according to the distribution of the paralysis, whether hemiplegic, diplegic or paraplegic. The cases are usually arranged under the generic terms cerebral palsies—the German *Cerebrale Kinderlähmung*—or spastic palsies, while the specific designation indicates the distribution of the paralysis, whether unilateral, bilateral, or paraplegic.

Without entering into historical details, it will be sufficient to note that the publication, in 1884, of Strümpell's

paper¹ seems to have aroused special interest in the subject. Since then, the monographs of Gaudard² and of Wallenberg,³ the contributions of Ranke,⁴ Bernhardt⁵ and Kast,⁶ in Germany, of Jules Simon,⁷ Richardiere,⁸ Jendrassik and Marie,⁹ in France, of Ross,¹⁰ Hadden,¹¹ Wolfenden,¹² Abercrombie¹³ and Gowers,¹⁴ in England, have extended and systematized our knowledge of these cases.

The valuable papers by McNutt,¹⁵ Sinkler,¹⁶ Wood,¹⁷ Hatfield,¹⁸ Knapp,¹⁹ Bullard and Bradford,²⁰ Seibert, Caillé, J. Lewis Smith,²¹ and quite recently Lovett,²² show that the question has not failed to attract the attention of American observers.

It is a pleasure to speak specially of the work of Dr. Sarah J. McNutt, of New York, which Gowers has recently characterized as "by far the most valuable contribution to medical science that the profession has yet received from members of her sex."

The kindness of my colleagues, Dr. Weir Mitchell and Dr. Wharton Sinkler, has enabled me to utilize their cases as well as my own, and makes the material upon which these lectures is based exceptionally large, much larger in fact than has been heretofore analyzed from any clinic. I have to thank, also, Dr. Kerlin, of the Pennsylvania Institution for Feeble-minded Chil-

¹ Ueber die Acute Encephalitis der Kinder. Jahrbuch für Kinderheilkunde, 1884; and his Text-book of Medicine, by Shattuck, New York, 1887, p. 704.

² Contribution à l'étude de Hémiplégie cérébrale infantile. Geneva, 1884.

³ Ein Beitrag zur Lehre von den Cerebralen Kinderlähmungen. Jahrbuch für Kinderheilkunde, 1886.

⁴ Ueber Cerebrale Kinderlähmung. Jahrbuch für Kinderheilkunde, 1886.

⁵ Hemiplegia spastica infantilis. Virchow's Archiv, Bd. 102.

⁶ Archiv f. Psychiatrie, Bd. xviii.

⁷ De la Sclérose cérébrale chez les enfants. Rev. men. des Maladies des Enfants, t. i. et ii.

⁸ Etude sur les Scléroses encéphaliques primitives de l'enfance. Havre, 1885.

⁹ Archiv. de Physiologie, 1885.

¹⁰ Brain, vol. v.

¹¹ Brain, vol. vi.

¹² Practitioner, xxxvi.

¹³ Hemiplegia in Children. British Med. Journal, 1887, i.

¹⁴ Diseases of the Nervous System. London, 1887, vol. ii. On Birth Palsies. Lancet, 1888, i.

¹⁵ Double Infantile Spastic Hemiplegia. Amer. Journ. of the Med. Sciences, 1885, i. Apoplexia neonatorum. Amer. Journ. of Obstetrics, 1885.

¹⁶ Paralysis of Children. THE MEDICAL NEWS, 1885, i.

¹⁷ H. C. Wood: Spastic Infantile Paralysis. Polyclinic, 1886, Nervous Diseases; their Diagnosis. Phila., 1887.

¹⁸ Hatfield, M. P.: Archives of Pediatrics, 1886.

¹⁹ Knapp: Journal of Nervous and Mental Diseases, 1887.

²⁰ Bullard and Bradford: Report of Proceedings of Suffolk District Medical Society. Boston Med. and Surg. Journ., 1888, i.

²¹ Report of Proceedings of New York Academy of Medicine, January 25, 1888. Journal of the American Medical Association, February 25, 1888.

²² Boston Medical and Surgical Journal, June 28, 1888.

¹ I am indebted to Dr. C. W. Burr, the resident physician, for much valuable assistance in the preparation of these lectures.

dren at Elwyn, for placing at my disposal the cases under his care; and to Dr. Wilmarth, his assistant, for anatomical data.

The cases may be arranged as follows:

	Cases.
Hemiplegia. { Infirmary	97
{ Penna. Instit. F. M. C.	23
Total	120
Bilateral hemiplegia	19
Paraplegia	11

A total of 150 cases of cerebral paralysis.

It is of interest to compare the relative frequency of the cerebral and spinal forms of infantile paralysis. During the period in which there have been at the Infirmary about 120 cases of the former, there have been nearly 500 cases of the latter, so that the proportion is about 1 to 4.16.

I. INFANTILE HEMIPLEGIA.

SYNONYMS.—Hemiplegia spastica cerebialis (Heine). Hemiplegia spastica infantilis (Bernhardt). Acute Encephalitis der Kinder (Strümpell). Die Atrophische Cerebrallähmung (Henoch). Agénésie cérébrale (Cazanvielh). Sclérose cérébrale, atrophie partielle cérébrale (French writers).

ETIOLOGY.—Of the 120 cases, 57 were boys and 63 girls. Right hemiplegia occurred in 68, left in 52 cases.

Age at onset.	Cases.
Congenital	15
1st year	45
2d "	22
3d "	14
4th "	1
5th "	3
6th "	3
7th "	3
8th "	1
9th "	1
10th "	1
Above 10	1
	110
Age at onset not given	9

Thus the greatest proportion of cases occur during the first three years of life.

Of the *congenital* cases, five presented no record of injury during delivery, and the affection was noticed either just after birth, or very early, without definite onset.

Case II.—Joseph C., æt. two years and a half. H., 203.¹ The mother, when pregnant with him, had chorea from the second to fifth month. When born the left arm was cold and white, and the child never used the left side. A squint has developed during the past six months. The left arm and leg are small, stiff and shrunken.

Case XXXV.—Genevieve C., æt. two years and nine months. I. P., 4, 38. Eleventh child, birth normal; no convulsions; dentition normal. After birth, the mother noticed that the child used the left hand rather than the right, and this condition has persisted. The child now walks, but with a hemiplegic gait. Rigidity at the right

elbow; contractures; difficult to extend. Intellect defective.

Case XLIII.—Tillie N., æt. twenty-three months. I. P., 3, 185. One of seven children; others healthy. Mother noticed since childbirth a contraction of fingers of right hand, and loss of power in arm; also weakness in right leg, especially at ankle. No history of fever. Born naturally at full term.

Case LXXII.—Henry B., æt. sixteen years. H., 262. Had seven spasms during the first twenty-four hours after birth, followed by loss of power on right side. Began to walk at twenty-two months. Learned to talk easily. Had a talipes equino-varus of right foot, which was operated upon. Began early to have choreic movements of the right side. Goes to school, and is intelligent. The right arm is apparently as well developed as the left, but the muscles are rigid. Very little voluntary motion. At rest, there is frequent spasm of the arm, the fingers are thrown out into irregular movements, and the arm is thrust out at right angles, or jerked behind him. This is very marked on excitement. The right leg is an inch shorter than the left, and not so well developed. When walking the leg is very rigid, and he turns the foot out. The leg is frequently extended when at rest. No rigidity of muscles of neck or face.

Case LXXIII.—Minnie C., æt. eight years. H., 281. Mother noticed that as soon as the child began to crawl and play it seemed paralyzed on the right side. Cannot fix the date of onset; there have not been convulsions. The right arm and leg can be moved, but they are somewhat wasted, and are the seat of irregular choreic movements whenever an attempt is made to use the arm or to walk. There is slight irregular movement on the right side of the face, when talking.

In the first three cases, the condition is stated to have been observed from birth, and, in the last, there was no seizure to indicate the onset, and in it, too, the paralysis was probably congenital. In the fourth case, there were convulsions during the first twenty-four hours similar to those which, as we shall see, usher in the majority of these cases.

Abnormal conditions of the mother during pregnancy, or accidents, are mentioned as possible causes, and, in a few of the cases, we find a record of sudden fright or unusual mental distress; but it is very doubtful how far such influences can be connected with the affection of the child. In such an instance as the following, the fright of the mother early in pregnancy cannot have had the slightest effect in inducing hemiplegia.

Case VIII.—Luther P., æt. four years. H., 279. Is the fourth of five children. Natural labor. Mother states that she was badly frightened at the third month, and to this she attributes the paralysis of the child. Had spasms while teething, but, as early as the third month, it was noticed that he did not use one side well. The right arm and leg are stiff and contracted. Began to walk when two years old. The speech is somewhat affected. Has had only one convulsion since teething.

Except in a few cases, no special mention is made of the existence of nervous disease in the parents, and the following is the only case in which there was a marked history of *alcoholism*.

Case LXXVIII.—Florence H., æt. seven years. I. P., 359. Father and mother addicted to drink. Is paralyzed on left side. Can get no history of its origin. Left hand

¹ The letters and numbers after the cases refer to the Hospital Case-books.

shows marked choreic movements. Gait hemiplegic. Has *petit mal*, and, occasionally, severer fits, in which she falls.

I have been rather struck with the vigorous, healthy-looking condition of the mothers with hemiplegic children whom I have seen at the Infirmary.

Syphilis is not often mentioned as a cause of infantile hemiplegia. It was noticed in only two of Gaudard's¹ series, and Wallenberg² alludes to it, but does not give any instances. In Abercrombie's³ series of fifty cases, four of the children had congenital syphilis. The following is the only case on the records in which there seems to be a pretty definite history of this disease.

Case LXIV.—Annie F., æt. two years. I. P. A., 225. Parents healthy. Of nine children, only two are living. Several died immediately after birth. Mother has cicatrices about the mouth and nose, due to a rash which came on during pregnancy. The child was well when born. When eight months old, fell off a chair; was not insensible, but that evening had "spasms." When ten months old, had spasms while cutting teeth. There were fever and a great increase in the general tenderness which had existed all over the body. There was no coma. About a week after the convulsions the mother noticed that there was complete loss of power in the left arm and leg. The child gradually regained use of the leg, and, when a year old, could stand on the leg, but she cannot yet stand alone. There was no facial palsy. *Status præsens*: A pale, but plump child. Is not very intelligent; can say only two or three words. She has thirteen teeth, all beginning to decay. The left arm is not wasted, but is flexed and contracted, and cannot be moved. The fingers are clenched. The left leg is swollen and softer, but there is no difference in the length. Four months ago she began to have spasmodic contractions of the affected arm and leg, lasting for about five minutes, and occurring several times each day. The arm would be jerked up, the leg twitched and the eyes become fixed. No twitching of face. Just before they come on she gets quiet, and, if nursing, drops the nipple. Immediately after, she draws a deep breath, and is then as bright as ever. The child was brought back when eight years old, and note merely says "decidedly idiotic."

The association of paralysis and mental defects with *difficult or abnormal labor* has been insisted upon by many writers, and, on several occasions, Dr. Sinkler⁴ has called attention to the subject, in connection with cases brought to the hospital.

In two cases the children were born prematurely. In Case LI. the mother had a fall, and delivery occurred at the eighth month. The child, however, thrived until the second year, when it had convulsions and became paralyzed on the right side. There was, probably, no connection whatever between the premature delivery and the onset of the disease, but, in the following instance, the affection probably dated from a few weeks after birth.

Case LXVI.—Andrew S., æt. one year. A seven months' child; very thin when born. When three weeks old had many convulsions, very severe. For six months,

on and off, there were fits every day. When lifted, and legs stretched, always screamed. When about five or six months old it was noticed that the left arm and leg were not moved. There has been no improvement, and now the fingers are contracted, and the forearm flexed on the arm. Can raise the arm, but does not use it. Left leg as long as right, but the foot seems shorter. Limb flexed at knee, but she can move the leg and toes. Does not sit alone nor stand. Died a week after first visit.

In three of the cases of bilateral hemiplegia the children were born at the seventh month; and in two of the cases of paraplegia the delivery was premature. In twenty-eight of Little's forty-nine cases of spastic rigidity,¹ eight of which were hemiplegias, the birth was premature, in either the eighth or ninth month.

*Injury with the forceps.*² Fissures and fractures of the cranial bones, with hemorrhage or contusion of the brain substance, are well recognized by obstetric writers as among the untoward results of forceps delivery. The parietal bones are most frequently involved. Unless bleeding occurs, or contusion of the subjacent cortex, the effect is not serious. In the special monographs relating to cerebral palsies in children, we do not find many cases of the kind. Thus, in Little's³ paper, which deals particularly with the relation of abnormal parturition to physical defects in the child, there are only four instances in which the forceps was used, and there is no statement of actual injury. Gaudard,⁴ in a review of eighty cases, met with no observation of the kind in the literature, and Wallenberg,⁵ in his analysis of 160 cases, notes that in only six instances was difficult labor mentioned as a cause, and he says nothing about the forceps. The Infirmary records contain the following cases, nine in number, in which the children were delivered with forceps.

Case VI.—Ada W., æt. three years. H., 249. No other children. The mother had a convulsion during labor and the child was born with instruments. Very early it was noticed that she did not use the right arm and leg properly, and this continues.

Case XII.—Albert McM., æt. eighteen months. H., 295. Instrumental labor; head slightly injured. Paralysis noticed October, 1884, just after a fall. Whole left side is affected; contractures of arm and wrist. Has no convulsions.

Case XVI.—Mildred M., æt. three months. H., 326. The second child. Was born with instruments. Labor tedious, head locked. Has no marks; well-nourished, healthy child; head symmetrical, a little fuller right than left. Legs never affected, reflexes good. Left arm paralyzed, smaller than right, three-quarters of an inch less in circumference of forearm. Fingers contracted. Improved somewhat under treatment.

¹ Little: *Obstetrical Society Transactions*, vol. iii., 1862.

² With the revelation of the Chamberlen's secret in the second or third decade of the eighteenth century, and the general introduction of the forceps as an aid to delivery, there was, very naturally, discussion upon the effect of such a measure on the child's head; and to this Sterne gives popular expression when, in *Tristram Shandy* (vols. i. and ii. of which appeared in 1759), he makes the breaking of Tristram's nose by Dr. Slop's forceps the beginning of all his troubles. The possibilities of injury to the "delicate and fine-spun web" of the brain are discussed at length by Shandy, Sr., with the Doctor and Uncle Toby.

³ Loc. cit.

⁴ Loc. cit.

⁵ Loc. cit.

¹ Gaudard, loc. cit.

² Wallenberg, loc. cit.

³ Abercrombie, loc. cit.

⁴ Sinkler: Discussion on Dr. Parvin's paper on Injuries of the Fœtus, *THE MEDICAL NEWS*, 1887, ii. Palsies in Young Children, *Amer. Journ. Med. Sciences*, 1875; *THE MEDICAL NEWS*, 1885, i.

Case XIX.—Mary C., æt. one year. I. P., 49. Parents healthy; was born with forceps. Baby did not use the right arm. Now is unable to set up. Right arm is smaller than left, the flexors are contracted, and the fingers are contracted and stiff. Uses the left leg more than the right. There is strabismus; forehead is narrow, no marks; has never had fits.

Case XLVII.—Clarence H., æt. three and one-half years. M., 5, 314. Elder of two children. Other five months old, well. Born with forceps; bears marks of deep lacerations. At two years began to walk, but badly. Walked in a stooping position and on his toes. Momentary spasm six months ago, thought to be brought on by excitement. Fairly well nourished and very intelligent; speaks slowly. Walks with uncertain, tottering gait. Drags left leg, and often falls forward.

Case LXV.—Estella M., æt. three years. I. P. a., 227. Was delivered with forceps after a long labor; head slightly cut. No convulsions, but for the first three months of life had prolonged screaming spells. Mother does not know whether the child was paralyzed at birth, but when she was three weeks old, she noticed that the left arm and leg seemed perfectly powerless. When one year old, she began to use the leg. Has now paralysis of left arm; can lift it, but the hand is practically useless, though she can move the fingers. The left leg is very little smaller than the right. Gait hemiplegic. Intelligent.

Case LXVII.—Kate F., æt. four years. M., 6, 18. Born with instruments; bears mark on face; small spot in skin and nodular thickening on right frontal bone. Never has used left hand and arm and left leg properly; cannot grasp well with left hand. Left hand smaller than right; cannot pick up small objects with the fingers; can walk and run, but not well. Left foot stiff; flexion and extension difficult. Apparent rigidity of ankle-joint. Muscles well developed. Walks on outer side of foot, and chiefly in the ball of foot. Knee-jerk increased very little. Left leg is colder. Is bright and intelligent.

Case LXXXI.—Floyd S. L., æt. six years. I. P., 33. Supposed to have been injured at birth by forceps. Was very inert during the first three months of life. After this, the mother noticed peculiar spasms, first in left leg then in right arm. Got well except in the right arm, which is choreic and palsied.

Case XCVII.—Lulu H., æt. five years; the fifteenth child. Others born living. Four children have died, two of convulsions. Mother in labor three hours; forceps applied, as there was some difficulty. Child resuscitated with great difficulty. Bears the scars of the forceps in right temporal region, just within line of the hair, and top of the right ear is scarred. On the left occipital region low down a scar. The wounds did not bleed much. On the second day child had a convulsion, lasting many hours; never has had another. When about three months old, it was noticed that the left hand was not used, and the face was crooked; and at the eighteenth month, when she began to walk, the left leg was seen to drag. *Status præsens*: Well-nourished, intelligent looking child. Head well shaped. Slight scars in above-mentioned regions; bones not apparently injured. Left face atrophied, but the muscles move quite well. Left arm not used; is smaller than the right. Hand not contracted; fingers can be flexed. A little stiffness at the elbow. Gait hemi-

plegic, left leg dragged; it is a trifle shorter and is smaller than the right. The reflexes are not exaggerated. Knee-jerk not obtainable on either side.

In six of these cases the child is said to have been injured by the forceps, and in all the paralysis was either noticed at once or a few months afterward without definite onset. Only one of these cases (XLVII.) appears to have had spasms.

Trauma. In three cases there was a history of injury to the head, one a penetrating wound, and two the result of falls.

Case XXIII.—J. E. K., æt. twenty-seven years. I. P., 131. When eleven months old received a wound on the left side of the head from a pitch-fork, which penetrated the skull from one to two inches, causing immediate paralysis of the right side of the body. Had convulsions after it. In fourteen days began to recover. Was five years before he could walk, and he never has regained the use of the right arm, which is rigid and flexed. Leg is slightly contracted at the knee and is stiff in walking.

Case LXII.—Thomas McK., æt. three years. I. P., 355. Parents healthy, birth normal. Several children have had chorea. When six or seven months old, child fell down stairs, striking her head constantly. Some time after, the mother noticed that there were irregular movements in the right hand, and the child has never used it properly. The movements are much increased by voluntary efforts.

Case LXXX.—Wilhelm S., æt. twenty-nine months. I. P. a., 81. When born, healthy. On the tenth day after birth the mother fell down stairs with him, fourteen steps. The head was not cut or bruised. For eight days he seemed very ill and did not take the breast; did not have convulsions. The head became much swollen—"all out of shape." Has never used the left hand since the fall, and the muscles are now in condition of rigid spasm. Left leg not used so well as right. The right parietal region bulges, the left is flattened, which makes the head very shapeless—right, semi-circumference nine and one-half inches; left, eight and seven-eighths inches. There is a large soft rachitic spot on right parietal eminence, very tender on pressure. Fontanelles closed. Has not had any convulsions.

Ligation of common carotid. In Case VII. of the Elwyn series there is the following remarkable history:

Mary P., æt. twenty-four years. In 1869, when six years old, she had an extensive abscess of the neck following scarlet fever. Ulceration of the right carotid occurred, necessitating ligation, which was performed by Drs. Keys and Getchell. Left hemiplegia followed and has persisted. *Status præsens*: Well grown but slightly built woman. Left hemiplegia. Wrist flexed immovably at right angles; thumb held in palm; fingers flexed, but can be moved a little. Arm somewhat wasted. Drags left foot. Left leg a little wasted. Face not affected. Is bright and intelligent. Is not epileptic.

Infectious disease. It is well known that both cerebral and spinal palsies may follow any of the specific fevers. Gaudard mentions whooping-cough and diphtheria among the possible etiological factors. In Wallenberg's statistics of 160 collected cases, 9 are stated to have followed measles; 13 scarlet fever; 3 diphtheria (and croup); 6 epidemic meningitis; 3 whooping-cough; 4 typhus (abdominalis); and 2 vaccinia.

Marié¹ has reported two cases illustrating the connection between infantile cerebral hemiplegia and infectious diseases; one came on with whooping-cough, the other followed mumps. Abercrombie lays special stress on the importance of this factor, which is noted also by Strümpell, Bernhardt, Gowers and others. In our series, in 16 cases the disease came on in connection with, or just after, an attack of one of the infectious diseases.

Scarlet fever: seven cases.

Case IV.—John K., æt. twelve years. H., 231. Family history good. Was well until July, 1880, when he had a bad attack of scarlet fever; ill for two months and had dropsy. Became very thin after the dropsy subsided; had retention of urine. Convalescence slow—had otitis media and a suppurating cervical bubo. The mother noticed loss of power on the right side as the dropsy disappeared. This persists, and the leg is now weak. But both are getting stronger.

Case XIII.—Emma G., æt. seventeen years. H., 300. Was healthy as an infant and child. Has not yet menstruated. When fifteen, had scarlet fever, a severe attack followed by dropsy. Was ordered a warm bath and while in it was seized with paralysis of the right side and loss of speech, and was unconscious thirteen hours. Was in the bath three-quarters of an hour. Had fever which lasted three days. Was in bed for a month. Gradually recovered use of leg. Gait is hemiplegic. Arm stiff at elbow and wrist and is held flexed. Reflexes exaggerated on right side; speech is still a little thick; a little paresis of right corrugator supercilii. Apex beat of heart forcible; loud blowing systolic murmur.

Case XVII.—Wm. Mc., æt. four years. M., 37. The seventh child; six years elapsed between sixth and seventh. Was well until November, 1884, when he had scarlet fever; had dropsy and also very bad throat with it. Shortly after, he had convulsions and became paralyzed on the right side; recovered power gradually, but has never spoken since. Said a few words just after the spasms. Is a strong, well-built child. No note as to spasm of the right side.

Case XXIV.—John W., æt. four years. I. P., 139. Was healthy when born; other children healthy. When ten months old could walk and was quite well; was attacked with summer complaint, which left him weak for several months. When two years and three months old, had a scarlet rash, from which he recovered and was walking about. Two weeks after, he arose one morning all right, seemed well and took his breakfast. Went to sleep in the morning, as usual, and the mother noticed that he began to pant and the mouth was drawn to the right. For a week he had a series of convulsions and lost power completely in right side and could not speak. In four or five months the speech gradually returned. Began to walk last spring. Convulsions have not returned. Intelligence below par; talks and his memory is good. Right arm feeble and contracted, and the fingers are flexed. Gait hemiplegic and the leg is stiff.

Case XXVIII.—Cassie McA., æt. twenty years. I. P. b., 85. Small, thin, pale girl. When between seven and eight years old had a severe and prolonged attack of scarlet fever, during which she was for a time insensible. Does not know if she had fits. Right-sided hemiplegia came on during the attack and has persisted ever since.

The face has improved, but the arm and leg have not grown, and there is a marked spastic condition of the muscles. Muscles respond to induced current.

Case LXX.—Alice R., æt. twenty years. H., 195. Was imperfect in some way at birth; the head was bandaged; was supposed to have water on the brain. She got better; no special feebleness noticed at that time. At ninth month, scarlet fever; feebleness on right side followed. Did not learn to walk until three years old; at first seemed to walk all right, but soon noticed that she turned the right ankle out, for which a brace was applied. At age of ten, the right tendo-Achillis was cut. There was a gradual leaning to the right side, with curvature of the spine. The right arm and leg did not seem to grow proportionately to the left. *Status præsens*: Is emotional. Slight loss of power on right side of face and uncertainty of movements, which are jerky. Great incoördination on attempting to pick up objects with right hand; movements choreic and weak. Some loss of feeling in right hand. Right leg; sensation better than in right arm. Temperature lower on right side than on left. Measurements of right arm and leg from one-half to one inch less than left.

Case LXXXIII.—Annie K., æt. five years. I. P., 187. Third child. Others healthy. Family history good. When two and a half years old, in October, the child had a mild attack of scarlet fever, followed by whooping-cough; one day the mother noticed at table that the child had suddenly lost power in the leg and arm of the right side, and that the face was drawn. This was quite sudden, without any premonition. The paralysis persisted, though improving. *Status præsens*: Opens and shuts the right hand, but does not use it habitually. Movements of the arm and forearm good, but constant choreic motion, and it is thrown about, particularly behind her, as she walks. The right foot strongly inverted; gait hemiplegic; toes flexed. Walks on the toes and wears out the nails. No special atrophy of the right side.

Measles: four cases.

Case XXXII.—Richard B., æt. twenty-five years. Con. Dis. 2, 215. Was healthy until eighteen months old, when he had measles, followed by otitis, during which fragments of bone came away. He then had convulsions and left hemiplegia, which latter has persisted. The arm is short and stiff—the forearm much shorter than its fellow. Great stiffness; claw-hand. Hemiplegic gait. He has a little difficulty in speech. Intellect is pretty good. The convulsions became worse about the tenth year, and he now has attacks at intervals of a week or two.

Case LXXXVII.—John C., æt. two and a half years. I. P., 55. Is the fourth of five children. Cut teeth early. Was well and healthy until last autumn, when he had a spasm lasting four hours. Convulsion general. Next day seemed bright and well. Six weeks ago the other children had measles, and this one, on the second day of the eruption, had a convulsion lasting six hours, after which there was right hemiplegia, with loss of speech, which continued two days. Then convulsions began again, with less severity; sometimes more marked on one side than on the other. He had, in all, about eighty fits. In about two weeks there was improvement in the paralysis, which has continued, and he has, for the past two weeks, been walking. No fits since the eruption disappeared. A discharge from the ear began six weeks

¹ Progrès Médicale, 1885, No. 36.

ago; is now stopped. Appears to understand what is said, but not fully. Head large and square, slight depression at anterior fontanelle, which is closed. Is irritable. There are distinct choreic movements of right arm, which he rarely uses, and only when the left is held. There is evidently loss of power. Leg seems to have recovered perfectly.

Case XXXVII.—Bessie K., æt. three years and two months. I. P., 73. Well until the eighteenth month; could walk. During the early stage of measles was seized suddenly with spasms and was unconscious for eleven hours. Had vomiting; paralysis of right side noticed immediately after and loss of speech. Has recovered use of leg and can run. Arm affected. Cannot talk. Intelligence not good.

Case I. (Elwyn series).—Jennie S., æt. fourteen years. In institution five years. Was well and strong as a baby until the twelfth month, when she had measles, followed by paralysis of the right side. Is intelligent. Arm stiff; not much wasted. The fingers move irregularly at times. Under the influence of emotion the hand gets very stiff, but when she is quiet it relaxes and she can pick up objects. Leg well nourished; very rigid; drags it much in walking. Knee-jerk not obtainable. No epilepsy.

Whooping-cough: three cases.

Case LXXXIII.—Given under scarlet fever, which preceded the whooping-cough.

Case LXXXV.—Kate B., æt. seven years. I. P., 248. Has been a healthy child. Last winter had whooping-cough, which lasted into the spring. In May, 1883, had a convulsion, suddenly, which lasted three hours and was followed by paralysis of the right side and aphasia. Did not attempt to walk for two months. Right arm improved, and face did not seem much affected. Gait is hemiplegic. Articulation is now perfect. Can flex and extend the arm and forearm, but has no power over the fingers. Thumb strongly adducted; wrist flexed. There is at times large tremor of the whole arm, especially when at rest. The right leg is stiff, but she drags it. The toes are turned in, but she gets along very well. Intelligence unimpaired.

Case VI. (Elwyn series).—John D., æt. fourteen years. Difficult, instrumental labor. Well until two years old, when he had whooping-cough, followed by brain fever and left hemiplegia. Arm stiff and wasted; hand flexed; irregular movements in fingers. Leg wasted. Gait hemiplegic. Choreic movements in left facial muscles. Is a low grade imbecile and has epilepsy.

In the following case *cerebro-spinal meningitis* was stated to be the cause of the trouble, but it was most probably a mistaken diagnosis, as the symptoms are just those which occur in the majority of the cases.

Case XXI.—Lily H., æt. four years. I. P., 85. Other children healthy. Was normal as a baby. When nineteen months old had an attack which was called cerebro-spinal meningitis; a series of convulsions for eleven days, on recovery from which the left side was paralyzed. When seen again, at the age of six years, there were marked arrest of development of the left arm and spasm and contractions of the paralyzed side.

In one instance the attack came on after *dysentery*.

Case XXII.—Gussie H., æt. six years. I. P., 125. Was never a very healthy child. When fourteen months old had a dysentery, after which she had two severe convulsions and coma for several hours, and seemed uncon-

scious for six days. The left side was convulsed for three days. When she roused, it was noticed that the left side was paralyzed—face and extremities. In about three weeks it began to improve. In three months began to walk, and within a year could walk alone. No convulsions since on left side, but one general convulsion. Talks with difficulty. Left-sided spasmodic paralysis, Gait hemiplegic.

Vaccinia: There are two instances in the literature in which the hemiplegia came on during vaccination. One is given by Heine in his work on *Infantile Palsy*.¹

Case XXVIII. (given in Wuillamier's thesis).²—J. L., æt. five months. Well until ninth month; vaccinated, and toward the close of the process there was fever, with a general papular eruption. Convulsions came on, followed by loss of power in the left side. Subsequently, epileptic attacks and feeble-mindedness.

The following case I saw with Dr. Morris J. Lewis.

Case XCIV.—A. L., æt. seven years; a seven months' child, vaccinated by Dr. Gerhard when she was about four months old. During the height of the vaccination there were convulsions, chiefly on left side, which occurred very frequently and were followed by deep coma. It was some time before the paralysis was noticed—some months. Now she has left hemiplegia. Arm wasted; contractions. Gait hemiplegic. Intelligence defective; speaks badly, but she is learning rapidly under systematic instruction.

In five or six cases the children had had convulsions repeatedly before the onset of the hemiplegia, and it is possible that the *convulsions* caused the lesion on which the paralysis depended.

Case XXVI.—Bruce B., æt. nine years. I. P., 207. Has had fits since the age of two years, at least once a month. They were general, and he fell in them. Eighteen months ago, after an unusually severe attack, with seven hours of unconsciousness, he awoke paralyzed on the right side; speech not affected; no loss of sensation. In three weeks he began to use leg. Has not had convulsions for a year. There is still difficulty in using the arm, which is stiff, and the movements incoördinate.

Case XXXIX.—C. M., æt. three years and three months. I. P., 237. Mumps two years ago; has had spasms ever since. One week before Christmas had a hard spasm, which was followed by right hemiplegia. Unconscious for six hours after attack. Could not walk for two or three days. Has not had spasms since. Leg and arm have improved. Rigidity of arm increased by passive motion. Can extend and flex arm; can extend but not flex fingers. Walks lame on account of contraction of extensors.

Case LXVIII.—John F., æt. seven years. I. P. b., 183. Mother died suddenly; six brothers and sisters, all healthy. Commenced having fits at three years. Has convulsions every six or seven weeks. When six, had a very severe fit, lasting two or three hours. Worked all the time. Fit lasted until 12 P.M. Awakened with a "screech." Lost hearing and speech. For ten days he moved his whole body. Had convulsive movements and contractions. When he began to improve, noticed he could not move right hand. Health excellent. Mind much impaired. Does not move right arm. Nutrition

¹ Spinale Kinderlähmung, 1860. Zweite Auflage.

² De l'épilepsie dans l'Hémiplégie spasmodique infantile. Paris, 1882.

about equal. Right hand colder. Grinds his teeth constantly, night and day. Right arm below elbow smaller than left. Muscles of right arm contracted, will yield, but immediately return. Plays, amuses himself. Takes no notice of others. Right leg a very little shorter than left. Right foot much colder than left, but muscles firm. Tendency to varus in right foot.

Case LX.—S. S., æt. twelve years. C. D. C., 57. Family history good. Healthy and strong until sixth year; intelligence very good. Six years ago mother noticed a twitching of left side of face, lasting not more than one minute, and only once a day. Had had no fall, no sickness of any kind. Soon the attacks of twitching of face became more frequent, two or three daily. Head always drooped to left side, and he seemed unconscious, but immediately afterward returned to play. More frequently attacks of twitching of face at night. Two years after first attack of twitching of face, had a general convulsion of left side; was lying asleep at the time, and attack lasted only a few minutes; did not wake up. Next morning early, while asleep, had another attack, which lasted one hour; got up immediately afterward, and seemed as well as ever. This attack was confined to left side; was paralyzed completely for one month after this; loss of speech. Paralysis suddenly left, and power to speak returned. The convulsive attacks have continued at the rate of from one to twenty per diem, and always during sleep, never when awake, generally at night, but, if asleep during the day, may have an attack. Face flushed during attack, afterward pale. Never bites tongue nor foams at mouth. These attacks continued to increase until two years ago. At this time began to lose power in arm; weakness extended to legs and, finally, could not move head, and lost power of speech. No palsy of bladder or rectum. No loss of sensation or hearing. In one year power began to return in hand, and gradually returned to legs and head. Still speaks very indistinctly. *Present state:* No paralysis of arms or legs. Speaks very indistinctly; mother only can understand him. Mind greatly weakened; and is irritable. Fits occur every night; generally has one to three nightly, and if bromide is neglected, will have a greater number. Always voids urine during a fit. Fits last two minutes, and confined to left side.

Case XCII.—Della W., æt. two years. C. D., 950. Convulsions began two hours after birth, and have continued ever since. These are of long duration, and affect the right side more than the left. Six months ago, after a severe fit, she lost power on the right side, and it persists, but is now partial. There are constant choreic movements in the right hand.

These cases are of interest, as confirming Goodhart's¹ view that the convulsions may cause the hemorrhage, which leaves permanent damage to the brain.

In the following case the hemiplegia came on after violent vomiting, caused by eating pokeroor.

Case LXIII.—Wm. R., æt. thirteen. I. P., 31. Was well until fifth year; at that time ate some pokeroor, which made him violently sick at stomach; the attack lasted all day. After vomiting, fell into a profound stupor—was thought to be dead. When he awoke had complete left hemiplegia, entire loss of power, face as well as limbs. Could not move for three or four months. Recovered slowly, leg first, then arm. *Status præzens:* Muscles

well developed. Has every motion of left arm and forearm. Can flex hand, but not well, every effort to flex produces more or less extension. Has also lock-spasm of hand; fingers press tightly in palm; extends them by producing extreme flexion of wrist by other hand, which produces reversed condition, and enables him, with aid of other hand, to unlock the fingers. There is choreic movement of hand resembling athetosis. Sometimes hand will not close. All muscles of left arm and shoulder are in constant motion. Muscles well, indeed, overdeveloped. When asleep, spasm subsides completely. Drags leg, but there are no spasmodic movements.

We should naturally think that *embolic processes* had much to do with the production of hemiplegia in children, but neither in the literature nor in our records is there support for this view. In the great majority of the cases the lesion supervenes before the onset of those affections with which endocarditis is associated. Of Wallenberg's cases, only five had endocarditis and embolism. A case reported by Taylor,¹ illustrates this condition very well: A child aged, five years, with scarlet fever, had convulsions on the fourteenth day, after which a right-sided paralysis remained. There was also partial gangrene of the hand, and dropsy of extremities. The autopsy showed embolic softening in left hemisphere, infarct in kidney and recent mitral endocarditis. Here the connection is very evident, and it is surprising not to find a larger number of cases of this kind. The only instance of embolism on our records is of a similar nature, and is given among the scarlet fever cases. The girl, æt. fifteen years at the time, had dropsy after the fever, and was ordered a hot bath, in which she was suddenly seized with right hemiplegia and aphasia. That this was embolic is likely from the sudden onset, and from the presence, eighteen months afterward, of a well-marked apex systolic murmur, the result, no doubt, of an endocarditis at the time of the scarlet fever.

In speaking of the morbid anatomy, we shall refer to the fifteen cases, of the ninety autopsies collected in the literature, in which there was vascular obstruction; seven of them were embolic.

ORIGINAL ARTICLES.

AURAL VERTIGO.²

BY CHARLES H. BURNETT, M.D.,
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AURAL vertigo differs from other forms of vertigo in owing many or all of its phenomena to disease of the ear. This latter lesion may be either entirely causative, or it may be only promotive of the vertigo. This disease has many forms, since the aural irritation may lie in the external, the middle or the internal ear. The entire train of phenomena, regardless of the seat of primal irritation, has been called Ménière's disease. But as both Flourens and Deleau, many years before Ménière, described this peculiar aural disease, the affection might be termed, with

¹ British Med. Journal, 1880, ii.

² Read before the Medical Society of the State of Pennsylvania, June 7, 1888.

¹ Text-book of Diseases of Children. Philadelphia, 1887.

or Deleau's disease. A fairer and more scientific nomenclature, however, is Aural Vertigo. The apparently same ear-disease does not always produce identical symptoms of vertigo. Sometimes no symptoms of vertigo are produced by the same form of aural disease which in other subjects evokes vertiginous symptoms. The neuropathic diathesis is well marked in most cases of aural vertigo, and hence we conclude that a neuropathic subject, with an aural lesion, is most likely to become vertiginous, and to suffer from aural vertigo. In any case, the neurotic, or neurasthenic, subject is more likely to become vertiginous from any cause, and very easily from irritation in the auditory apparatus.

Aural irritation is competent to produce vertiginous symptoms because of the peculiar nature of the semicircular canals in the labyrinth. These canals owe their peculiar relation to equilibration to the fact that the auditory nerve contains motor fibres, which chiefly pass to the peduncles of the cerebellum, and to the spinal cord. But some of these motor fibres of the auditory nerve pass to the ampullæ in the semicircular canals, thus instituting an audito-motor connection between the internal ear, the cerebellum and the spinal cord. Without attempting to locate in the semicircular canals a vertiginous centre (as some would), it is an admitted fact that irritation of these organs and of the inferior peduncles of the cerebellum produce identical phenomena of vertigo, reeling, nausea, vomiting, etc. This irritation may arise in different ways, and be communicated by various routes to the brain.

In the earliest cases of aural vertigo ever described, the irritation was not only supposed to spend itself upon the internal ear—*i. e.*, on the semicircular canals—but was supposed to be of an apoplectiform kind, and to arise in the internal ear.

It is a fact that post-mortem examination in some cases of ear vertigo reported by Ménière, and also by Moos and others, revealed in the labyrinth and semicircular canals serous and sanguineous effusion, with more or less destruction of the soft tissues of the internal ear, thus establishing an apoplectiform form of aural vertigo.

Similar phenomena of aural vertigo have been observed, and their pathological genesis established by post-mortem examination in tumor of the auditory nerve (Morris Longstreth and C. H. Burnett). Many cases of aural vertigo, however, are *mechanical* in their origin, and are extralabyrinthine.

Thus, in inflammation in the middle ear accompanied by swelling and extravasation of serum, blood, mucus or pus, great pressure is exercised upon the stapes, in the oval window, and upon the membrane of the round window, both of which communicate with the labyrinth fluid. By this means it is easily seen how increased pressure may be exercised upon the labyrinth fluid and the nerves in the semi-

circular canals, by pressure upon the two windows named.

Another way in which pressure is exerted is by retraction of the chain of ossicles, carrying inward the foot-plate of the stapes, and pressing upon the labyrinth water. When the air of the drum cavity is absorbed, as it is very quickly if the Eustachian tube is closed by inflammatory swelling, or if the drum cavity is invaded by extravasation, the membrana equal justice (perhaps with more), either Flourens's tympani is pushed inward by the external atmosphere.

Mechanism of aural vertigo explained on a physical model of the middle ear. Thus the chain of ossicles is carried inward and the labyrinth water compromised, especially if the normal compensatory yielding of the membrane of the round window is diminished or stopped by swelling of the mucous membrane over its tympanic surface. Such is the mechanism of aural vertigo in both acute and chronic inflammation in the drum cavity.

The latter conditions are fully explained by some recent post-mortem examinations of Gellé, of Paris.

These examinations of the middle and internal ears, in some cases of undoubted aural vertigo, have shown that either the foot-plate of the stapes had been ankylosed in the *oval* window, or that dense fibrous or osseous closure (ankylosis) had taken place in the round window and its membrane. If either of these conditions occurs, the compensatory yielding of (let us say) the membrane of the round window to pressure exerted by the foot-plate of the stapes upon the lymph and the labyrinth is stopped. The result is, that a very little pressure upon the foot-plate of the stapes exerts unusual force upon the terminal nerve filaments in the semicircular canals, and vertigo ensues. Similar forces act and resultant phenomena occur, if the stapes is ankylosed in the oval window, and sound waves or other forces act upon the membrane in the *round* window (membrana tympani secundaria).

The mechanism of aural vertigo is similar in cases in which the irritation—*i. e.*, pressure inward of the membrana tympani, has its origin in the external ear. This is seen in the vertigo produced by a foreign body, or by any force which presses the drum membrane inward. This, in turn, carries the malleus and the entire chain of bones inward. The stapes is forced unduly inward, and the fluid—the so-called peri- and endo-lymph, in the labyrinth is compressed, the nerves in the semicircular canals receive an undue shock, and vertigo is the result.

In the more acute forms of aural vertigo, the patient is conscious of some irritation in his ear, but neither he nor his physician is very likely to connect the vertigo with aural disease. In the more chronic forms of aural vertigo, some cause, other than the aural lesion, is usually blamed for the vertigo and other cognate symptoms.

If the vertigo and nausea are the chief symptoms, the patient is supposed to be bilious. If to these symptoms, reeling and falling, with or without syncope, are added, the victim is said to be epileptic or apoplectic. In some cases, in which the irritation is from a foreign body in the external ear, the patient may have symptoms of paresis in the arm or leg on the same side.

In many instances of ear-vertigo from tympanic disease, the symptoms are only a slight dizziness and nausea, coming on suddenly after eating, or with a cold in the head. These are most likely to be considered gastric in their origin, or "bilious." Yet vomiting does not always relieve, nor yet treatment for the supposed "biliousness." In the worst forms of aural vertigo, originating in chronic disease of the middle ear, the symptoms are most distressing. The nausea and dizziness may come on suddenly, being generally preceded by tinnitus aurium. These symptoms often continue for hours or even days, the patient becomes extremely pallid, the forehead, and in fact the entire body, may be bathed in cold perspiration, the hands even get cold and clammy, and the patient presents the appearance of one in collapse. The mind, however, remains entirely clear, and there is nothing resembling either tonic or clonic spasms. The absence of these, together with the pallor and unobstructed intellect, serve to distinguish such attacks from apoplexy, or epilepsy.

Of course, when the dizziness and nausea are intense, the patient cannot walk, and syncope may supervene from the intense nausea. Nevertheless the pallor will aid in distinguishing aural vertigo from apoplexy. But syncope in aural vertigo is one of the rarest symptoms.

In the so-called apoplectiform cases, in which sanguineous or serous effusion into the labyrinth is supposed to occur, the profound and sudden deafness, the great tinnitus aurium and the vertigo, consciousness being maintained, serve to diagnose aural vertigo from apoplexy.

In these cases, the vertigo generally appears in paroxysms, apparently dependent upon variations in health or upon fatigue. In these forms, it will be often found that the subject has been overworked, either as a business or professional man. The deafness is usually permanent and the tinnitus aurium long continued.

In aural vertigo dependent upon a central lesion, like tumor of the auditory nerve, the vertigo and altered gait are constant, and the deafness increasing and profound.

Treatment.—In external-ear-vertigo, when the irritation arises from a foreign substance in the ear, the treatment consists in the removal of the foreign substance. This is most safely and conveniently done by syringing the ear. If the foreign substance has wounded the skin of the auditory canal or the

membrana tympani, such lesions must be treated. If the foreign body is an animate one, like an insect, smothering the creature with oil, as soon as possible after its entrance into the ear, will allay the vertigo. The dead insect can then be removed at leisure.

If the irritation productive of aural vertigo is in the middle ear, the treatment must be directed to the cure of the acute or chronic inflammation of the drum cavity, and its causes.

In acute otitis media, the removal of the products of inflammation may be accomplished either by inflation of the tympanum through the Eustachian tube, or by paracentesis of the membrana and letting out the mucus or pus. At the same time, the nares, from which the inflammation has probably started, must also receive attention. In the chronic form of otitis media catarrhalis, the treatment of the nares must be a prolonged one, in order to relieve the narrowing or swelling of the Eustachian tube, which, having cut off the usual air-supply to the drum, has led to a vacuum in the drum-cavity, to retraction of the membrana and the ossicles, inward pressure of the stapes and pressure on the labyrinth water, thus evoking aural vertigo.

In chronic cases like that just described, the equilibrium of the air-pressure on both sides of the membrana and the restoration of the vibratility of the chain of ossicles, with consequent relief to labyrinth pressure, may be brought about by perforation of the membrana tympani. This may be done with a small paracentesis knife; but the relief is of short duration, because the knife-wound heals very soon. A more lasting opening may be made with sulphuric acid.

Previous to this latter operation, partial local anæsthesia may be obtained by instilling a ten per cent. to twenty per cent. solution of cocaine into the ear and allowing it to rest a few minutes in the fundus of the canal and on the membrana tympani. Then, under good illumination of the fundus and the membrana, either by the light reflected from a forehead-mirror or from the electric lamp arranged for the forehead, press a cotton-holder armed with a small dossil of cotton, one to two millimetres (a half to a line) in diameter, moistened with sulphuric acid, against the lower posterior quadrant of the membrana tympani.

This operation causes sharp pain for a few moments, but this is always checked by the instillation of more cocaine. The hearing is usually improved, and the attacks of vertigo much less frequent and severe after the perforation in the membrana is established. Perforations thus made endure for months, and in the meantime the vertigo is relieved or cured.

A more permanent opening in the membrana—*i. e.*, into the drum-cavity—is maintained by excision of the membrana and the two larger ossicles, the

malleus and the incus. This operation relieves the retraction of the chain of bonelets and permits the stapes to have more freedom of motion in the oval window. This can be performed only when the patient is under the effect of an anæsthetic. Then, in order to bring a light with safety near the patient, for illuminating the ear, the electric light as arranged by Dr. S. Sexton, of New York, must be used (portable storage battery and lamp for forehead shown).

The first step in this operation is to excise the posterior upper quadrant of the membrana tympani with a small knife. This is done in order to reveal the incudo-stapedial joint and to permit a separation of the incus from the stapes. The latter must be left intact; the former may be removed or simply allowed to remain turned upward into the attic. The next step should be tenotomy of the tensor tympani, best accomplished by a special form of knife. This done, the membrana tympani is cut around the periphery and the suspensory ligaments of the malleus severed, and the latter bone removed by gentle traction with forceps. The hemorrhage is very slight, and there is usually no inflammatory reaction after this operation. As the hearing is often improved by this operation, and the tinnitus aurium lessened or entirely cured, it has seemed to me fair to assume that aural vertigo in chronic aural catarrh, with profound deafness, which has failed to yield to treatment applied to the naso-pharynx, might be relieved by the operation I have just described. Hence I have performed it for the relief of aural vertigo, with entire success, in a case of this nature. From all of which we may conclude that aural vertigo is very often due to mechanical interference in the sound conductors of the middle ear, relievable by an operation which overcomes this disturbed mechanism in the middle ear and relieves the labyrinth and the semicircular canals from the undue inward pressure of the chain of ossicles, especially the stapes, upon the labyrinth fluid.

A NEW FORM OF ABDOMINAL ELECTRODE.

BY ELY VAN DE WARKER, M.D.,
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THE present of a book-weight composed of two narrow rows of quilted cloth filled with shot, making a long, flexible weight that would reach across the open pages of a book, furnished the idea of the shot abdominal electrode as I have made and used it.

It may be briefly described as follows: A circular disk of zinc, to which is connected the binding-post, has attached to its periphery, by solder, half a dozen fine copper wires eight inches long, or of sufficient length to reach across the electrode, which are loosely tacked, as the needle-women call it, to a piece of thick, firm chamois skin, cut the shape and

size of the intended electrode. Upon this is laid another piece of chamois of the same size, and the two are then quilted together in rows parallel to each other, and about two-thirds of an inch apart. The spaces made by the rows of quilting are then filled with fine shot; I used No. 7. A thin vulcanized plate, the same size as the zinc disk, is interposed between the chamois and the zinc, on what we will call the contact side of the electrode, so that the current will be diffused through the latter and not directly from the zinc, as electricity always takes the shortest route. For the same reason, the copper wires should be tacked to the upper and not the contact side of the electrode, as there is just enough difference in conductivity between the copper of the wire and the lead of the shot to diffuse the current, the copper having a specific resistance of 112, and the lead of 1213 (Deschanel). This difference in specific resistance is the theory upon which I relied to distribute the current evenly through the electrode, and the result in practice showed that it was correct; but it is evident that if the copper wires had nothing but the wet chamois interposed between them and the skin of the patient, the latter would receive the electricity in streaks corresponding to the distribution of the wires, which would be very clearly mapped out in vivid colors when the *seance* was over.

The electrode is prepared by immersing in water until it is saturated, and thus the chamois, which is a non-conductor in the dry state, becomes as perfect a conductor as water can make it. While we have a pad of very low power of internal resistance, yet the resistance is not represented by the elements of which it is composed, but by the water with which it is saturated. This is true of all large electrodes that are designed to be neutral in the employment of a current of any considerable voltage. The merit of the shot electrode lies in matters entirely outside of purely electrical considerations, and is mechanical, or, it is better to say, operative.

The comfort of the patient, the steadiness of the current, the safety of the surface and the after-results depend not upon the material of which the electrode is composed, because water is the agent that acts as the conducting element between the material of the electrode and the surface in all non-effective large electrodes of this class, but upon the firmness and uniformity of the contact between the electrode and the exposed surface of the patient. I have used several of them, and find that in this respect there is a serious defect in all. One of the best is the clay electrode of Apostoli, which is made up of non-conducting material and depends upon water as the conducting agent entirely; but unless the clay is made very wet it requires great battery strength to overcome the internal resistance offered by the material, and through the respiratory movements of the abdomen, the movements of the patient,

or reflex jerk, the intimacy of contact and the uniformity of pressure are being continually changed; in other words, a make and break in the continuity of the current is continually going on in small areas throughout the surface of the electrode, which accounts for the blotched appearance of the surface when the clay is removed after a *seance*. This can only be prevented by making the clay thoroughly wet. In addition to this the electrode of Apostoli is troublesome and filthy. Large zinc plates covered with absorbent cotton and saturated in a solution of sodium chloride, or covered with soft towelling wet in the same solution, are still more difficult to keep in uniform contact with the exposed surface of the patient. The milliamperemeter instantly shows the variations in contact. If the electrode is held in position by the assistant and the pressure of her hand is relaxed, the instrument will at once register a smaller number of milliamperes, but without any indication that the current is broken. When the pressure is restored, the former amount of current is again indicated. The water electrode that some one has invented is simply a great fluid rheostat that modifies the current and requires considerable battery effectiveness to overcome.

The shot electrode that I have made weighs nearly four pounds, and by its flexibility and weight preserves a constant degree of contact and pressure. It adjusts itself to the respiratory movements of the abdomen, coughing or involuntary muscular contractions, without in any way interfering with the uniformity of contact or pressure. The new electrode has given me considerable satisfaction, and I contribute this in the hope that others may be induced to give it a trial. My instrument was homemade, and is more useful than ornamental. Messrs. Waite & Bartlett, of 143 East 23d Street, New York City, are prepared to make the electrode in more durable and workmanlike form.

THE RATIONAL TREATMENT OF STRICTURES OF THE MALE URETHRA.¹

BY JOHN HARVEY GIRDNER, A.B., M.D.,

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ANATOMISTS and surgeons, when writing of the male urethra, divide it into portions, called prostatic, membranous, bulbous and penile. While these divisions are quite proper in a certain sense and greatly facilitate description, they are, nevertheless, often misleading, and one is very likely to associate in his mind an essential difference in the construction of the variously named portions of this tube, and these false notions interfere with all subsequent

attempts at a clear conception of the causation and proper treatment of strictures of its calibre.

The truth is, the urethral canal is of identical construction throughout its entire length, and the terms prostatic, membranous and bulbous portions have no relation to the tube *per se*, but describe the tissues by which it is surrounded at various points in its course. Picture to your mind an India-rubber tube of uniform construction and nearly equal calibre, leading across country, through which water is to be occasionally pumped; at one point it curves upward to pass over high ground, where it is firmly imbedded and closely surrounded by the earth; at another it dips downward to span a hollow, where there is almost no support around it; again, a boulder supports its under surface, and so on, and you have an excellent sketch of the male urethra. A microscopical section from any portion of the urethra shows the walls to be constructed of elastic and non-elastic fibres running in different directions, and all thoroughly interlacing with each other, and the mucous membrane which lines the canal is paved with many layers of epithelium; in short, nature seems to have exhausted herself in providing that this canal shall be effectually protected against leakage of the urine into the surrounding tissues while passing from the bladder.

We know that it is nature's rule, in so far as she is able, to repair every injury to the organism, whether made by disease, accident or the surgeon's knife. But, unaided, she frequently fails to attain the end for which she strives, while, at other times, in the very act of repairing a breach, she brings about another and more serious pathological condition than the one which she sought to relieve. With the superior intelligence of man over nature, it is our business as surgeons to study nature's methods, and, by aiding and directing them, to bring about the restoration of the part, which, left to herself, she could not have accomplished. Nature's laws and methods never change; the means she would have employed to repair the injuries inflicted by Cain upon Abel are the same which she adopts in a similar case to-day. It follows, then, that every *real* improvement in our art must be based upon the discovery of a new law in nature's code, or upon a more perfect understanding of one already known. Take as an illustration, antiseptic surgery. What is it? Only a strict obedience to one of nature's laws which we have thoroughly learned, viz., that certain secretions, notably the urine, and the products of inflammation shall not remain in contact with unprotected living tissue.

Innovations or new methods of treatment, based upon any other principle than this, are mere experiments, or, what is infinitely worse, are the dictates of fashion, which is unfortunately too common in the practice of surgery.

¹ Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, April 7, 1888.

Strictures of the urethra are never directly caused by disease or injury, but are the result of the protective and reparative methods which nature adopts to preserve the integrity of the walls of the canal when they are attacked by ulceration or injury from within the tube.

The ulcerative action of the virus of gonorrhoea upon the inside urethral wall is the most common cause which excites this protective inflammation on its outside; but it ought not to be forgotten that every traumatism to the mucous lining of the urethra, whether made by accident or by the surgeon's instruments, if at all serious, will certainly be followed by plastic inflammation and a deposit of organizable lymph opposite the point of injury on the outside of the tube, and between it and the surrounding tissue; this lymph soon becomes organized into connective tissue, strengthens the wall at the desired point and secures its integrity until the inflammation, ulceration or effects of the traumatism within the tube have passed away.

In obedience to another law of nature governing connective tissue, it slowly contracts, and, as it does so, it presses the urethral walls together, and consequently impinges upon the calibre of the tube, and thus a stricture is formed.

The tightness of a stricture depends upon the amount of connective tissue thrown out at that point. In the penile portion, where we would expect the virus of gonorrhoea to be the most active, we rarely have tight strictures; the reason is, that in this portion the corpus spongiosum envelops the urethral tube so snugly that only a small amount of connective tissue can be placed between it and the surrounding structures at any one point. The bulbous and membranous portions are the points where the tightest strictures occur; the reason is that around these portions the tissues are very lax; here the urethral tube spans a hollow, as it were, and receives almost no support from the adjacent tissues, and thus abundant space is left around it for the deposit of a large quantity of plastic lymph.

The bulbous and membranous portions are not only the seat of the tightest strictures, but these portions are most frequently attacked by them.

The reason for this greater frequency is, because the urethra being most dependent in these portions, the gonorrhoeal poison naturally gravitates to, and remains in them; injections into the canal for the cure of gonorrhoea also doubtless assist in driving the virus to these portions.

Stricture, perhaps, never occurs in the prostatic portion of the urethra. The reason is, that the tube curves sharply upward from the membranous through the prostatic portion into the bladder, and there is nothing to force the virus up this acclivity once it is lodged in the membranous portion, and if it should reach the prostatic portion and set up an

ulcerative inflammation, the stricture resulting would be only a slight one, for the firm tissue of the prostate gland surrounds the tube so tightly, that only a very slight amount of cicatricial tissue could be deposited between them.

We come now to the treatment of strictures of the urethra. And still keeping Nature's laws in view, let us endeavor to find out what, from her standpoint, are the rational means by which we can both relieve these constrictions and remove or render impotent the cicatricial tissue which has caused them.

From what we have already noted of the peculiarities of strictures in the different portions of the urethra, the subject of their treatment seems naturally to divide itself into two heads, viz., stricture in the penile portion and stricture in the membranous and bulbous portions.

We will first consider the treatment of strictures in the penile portion. We have seen that strictures occur with less frequency in the penile portion, and that they are also rarely so tight as when situated in the deeper portions; we have also seen the reasons for these differences. The methods of treatment generally adopted for relieving these strictures are two; gradual dilatation and pressure by the introduction of steel sounds of increasing size, and by internal urethrotomy.

From the standpoint of antisepsis, the operation of internal urethrotomy is a most glaring inconsistency, and a violation of the known laws of nature, as applied to this part of the organism.

You cannot cut a stricture internally, without at the same time cutting some of the sound tissue in its neighborhood; and, indeed, the advocates of the operation advise that the cut shall extend into the sound urethra behind and in front of the constriction. The amount of it is, in this operation, an incised wound is made through the urethral wall and into tissue eminently adapted for the absorption of any deleterious matter which may come into contact with the wound. It is a wound to which air may find access, one through which instruments are to be passed, which, in spite of our best care, may deposit in it septic matter. It is a wound certain to be constantly bathed with urine, a wound which you cannot see, explore, drain, cleanse or disinfect.

Should the patient escape these dangers of infection, the worst is to follow, for after this traumatism, nature adopts her old method of preserving the integrity of the urethra, and deposits more lymph at the seat of the stricture and in the adjoining healthy tissue, which in time organizes and contracts; and not the old stricture, but a tighter one is formed, and the last state of that urethra is worse than the first.

My own clinical experience of more than ten

years, and the still greater experience of others, which I could detail, had I the time, amply prove the truth of what I have said. Everything said of internal urethrotomy applies equally to divulsion, rapid dilatation or any plan which contemplates a traumatism to the urethral wall.

The so-called gradual dilatation treatment is a misnomer as applied to strictures of the penile portion. It conveys only the idea of stretching, while the most important element in it is the pressure it exerts on the connective tissue surrounding the tube. One of the simplest and best known laws of nature is that pressure on a part causes its absorption. We, therefore, take advantage of this law, and of the fact that the tissues around the penile portion of the tube are comparatively firm, and offer a certain amount of counter-pressure. It is my rule, also, to aid this counter-pressure by allowing each instrument to remain in the urethra for five minutes or more, and during this time to make gentle but firm pressure over the seat of the stricture by squeezing the penis at this point between the thumb and finger, carrying the manipulation all around the organ. In cases in which the deposit of cicatricial tissue was so large that it could be felt as a small hard tumor around the point of stricture, I have been able to note its gradual disappearance from day to day under this treatment. After much experience with this method, I have yet to see a stricture of the penile portion which failed to yield to it, and when dissipated in this way the stricture has not returned in two, three and five years after all treatment was discontinued, as is proven by some of my own cases. This I hold to be the only rational and successful treatment of strictures in the penile portion.

Next comes the treatment of stricture of the deep urethra. The dangers and unnaturalness of internal urethrotomy and allied operations, as we have shown them to exist when the operation is performed in the penile urethra, are doubled if performed in the deeper portions; and with this remark, I dispose of the subject of internal cutting in the deep urethra.

Gradual dilatation and pressure, which we have seen to be so successful in the penile portion, will cure only a limited number of strictures when they are situated in the bulbous and membranous portions. The reasons for the failure are, because, as we have seen, strictures in these portions are, as a rule, very tight, the open space around the tube here allowing of a large deposit of connective tissue; and, furthermore, this same laxity of the surrounding tissues prevents us from getting the counter-pressure, when solid sounds are passed, which the more compact tissues around the penile portion offers, and the location of the tube here also prevents us from making counter-pressure by proper manipulation which we found so useful in the penile portion.

Except, therefore, in cases in which the stricture

is of recent formation, with only a small amount of cicatricial tissue opposite the point, gradual dilatation and pressure will prove, at best, only palliative in strictures of the deep urethra.

Perineal section, or external urethrotomy, is an operation almost entirely void of danger, and, when properly performed, it may always be depended upon permanently to cure strictures in the membranous and bulbous portions of the urethra. It has been so successful in my hands that I have come to feel justified in promising my patients a permanent cure in ten to fourteen days from the date of the operation.

External urethrotomy is free from the dangers and inconsistencies of the internal operation. Its proper performance contemplates and accomplishes the most simple and rational means of relief, which is to incise externally the urethral wall at the point of constriction, and introduce into the incision a wedge of sound tissue sufficiently large to restore the tube to its normal calibre. It is not difficult to accomplish this; my rule is to cut in the centre of the perineum, reach the stricture, freely incise it, cutting into the sound tissues on both sides for a quarter or half an inch; then pass from the meatus to the bladder a hard-rubber catheter of the size of the normal urethra, and tie it in position. This causes a gaping of the walls of the incision, and prevents their primary union, and the extent of this gaping is the correct measure of the wedge of sound tissue which is to be introduced into the circumference of the tube; this wedge is secured by the final union of the granulations, which by thus keeping the walls apart are made to spring up on the two walls of the incision. After thirty-six hours the catheter is removed and the urine allowed to drain from the bladder through the wound, and this, together with the daily passage of a sound of the size of the normal urethra, is sufficient to insure the formation of a proper sized wedge of granulation tissue. Strict asepsis is, of course, observed throughout the operation.

LACERATION OF STENO'S DUCT, FOLLOWED BY INACTIVITY OF THE CORRESPONDING PAROTID GLAND.

BY HANS H. SINNÉ, M.D.,
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INJURIES to the parotid gland and its duct are almost invariably followed by disfiguring fistulæ, not to mention more disastrous results. The following case, for singularity of its development and final results, stands probably unique.

On Thursday, April 19th, I was summoned in haste to see Otto F., æt. seven, who, while playing with some comrades, had been thrown upon the ground by a dog, and severely bitten in the cheek.

The tear began at the angle of the mouth, through the more superficial fibres of the sphincter oris, ran thence upward for about an inch in the direction of Steno's duct, and from there in two distinct lines, the lower following the salivary duct to near the lobe of the ear, the other perpendicularly upward to the lower margin of the eye. The intervening tissue of a quarter of an inch in thickness had been torn from the underlying structures, so as to present the form of a flap. Further inspection, upon lifting this flap, revealed the parotid gland uninjured, but Steno's duct was torn at a point very near to the body of the gland. The remnant of this canal, of about one and a quarter inches in length, was found curled up near the angle of the mouth; the intervening piece was missing. The buccal cavity had not been entered.

The wound was washed with warm water to promote bleeding, though nearly an hour had elapsed since the injury was received. This fact and the form of the injury caused me to omit cauterization.

As the remainder of the salivary duct would have been of very little if any use, and lest it might interfere with proper union of the parts, it was removed. The child was put under chloroform, the parts were carefully washed with a warm solution of bichloride, then nicely adjusted and stitched into position. In order to drain any saliva secreted by the parotid gland, several silk threads were put underneath the flap up to the body of the gland. The wound was dressed with iodoform, bichloride gauze, and pressure was exerted upon the gland and flap by a graduated compress, confined *in situ* by an appropriate bandage.

Owing probably to shock and the anæsthetic, there was no secretion of saliva on the injured side for two days. On the third day the secretion of saliva was found resumed, the wound red and angry, several stitches torn out—though due allowance had been made for ensuing tension—and the flow of secretion gravitating toward the lower margin of the wound, and separating its edges, without following the course of the drainage-threads. The exerted pressure had evidently not been sufficient to keep the flow of saliva in the line indicated by the silk drainage.

New drainage-threads were introduced, and, in order to increase the pressure upon the gland and flap from below upward, a broad cork of half an inch in thickness, cut to fit the prominence of the zygomatic arch, and well padded by lint and gauze, was confined underneath the reapplied roller. The cork and bandage were readjusted every day, with the ultimate result that the salivary secretion became greatly diminished, and its flow directed in the course provided for its drainage.

On April 28th the flow of saliva ceased completely. The neighboring submaxillary and sublingual glands and the parotid of the opposite left side showed for a day or two distinct sympathetic disturbance, marked by swelling and pain on pressure. Pressure upon the parts was nevertheless continued.

On May 2d I presented the case to the Mercer County Medical Society, at Trenton, N. J. As there was then no further secretion of saliva, and no serum

was visible, and the margins of the wound had become firmly united, pressure by the cork and bandage was discontinued, and, after removal of the now superfluous silk drainage, the wound was dressed with subiodide of bismuth collodion. There has since been no disturbance of any kind, and the wound is completely healed. The boy is still under my surveillance, to guard against accidents.

The dog has unfortunately been shot, against my advice, as I desired to see if any signs of rabies should develop themselves. The animal, though somewhat ferocious, was probably not rabid at the time of the injury.

As there is at present not a sign of either fistula or abscess—complications which I most certainly anticipated—I can but conclude that the parotid gland, owing to the continued pressure, became hermetically sealed by the union of the flap to the underlying part, and ceased activity, in time probably undergoing atrophy because of non-use.

The patient does not complain of pain or other ailment, and is to all appearances perfectly well. The case in question certainly compels us to conclude that it is best to postpone surgical interference in all similar cases *ad ultimum*.

145 BUTLER ST., May 7, 1888.

MEDICAL PROGRESS.

The Diagnosis of Syringomyelia.—At a meeting of the Verein Deutscher Aertzte in Prague, held January 13, 1888, PROF. KOHLER made some remarks on the diagnosis of syringomyelia.

The patient exhibited showed, besides progressive muscular atrophy of both upper extremities, in course of development for three years, an affection of the skin, limited to the region of the shoulder and arm, consisting in numerous circumscribed spots of necrosis, with succeeding ulceration and keloid cicatrization. Besides, there exist defects of the temperature sense in both hands and on the left forearm; and upon both sides, the oculo-pupillary symptoms of paralysis of the cervical sympathetic.

The preceding complexus of symptoms may depend upon two conditions, that of the formation of a cavity dependent upon dilatation of the central canal, and that of central glioma of the spinal marrow, the latter with or without the formation of a cavity and fissure.

Both the processes mentioned, at the time, were not susceptible of differential diagnosis. The central seat of the changes, and the preference with which the cervical cord is first attacked, are common to both. He made a searching analysis of the complexus of symptoms hitherto observed in the cases of syringomyelia referred to, and gives prominence to the following signs, as of diagnostic significance by reason of their peculiarity, or of their association: the progressive muscular atrophy, peculiar disturbances of sensibility, particularly analgesia and defects of the temperature sense, finally trophic disturbances of the skin and deeper parts. The last may appear as paronychia, leading to the loss or deformity of individual phalanges of the fingers, or as a deep-seated phlegmonous inflammation. Or they may show them-

selves, as in the patient presented, upon the skin in the form of vesicles, which appear filled with serous or purulent contents, and change to protractedly suppurating ulcers, on which an indurated cicatrix is frequently to be observed. Or, finally, there occur in the cases of such patients, spontaneous, or rather, upon slight cause, fractures—the so-called spontaneous fractures. It is worthy of notice that any of the manifestations of the disease may appear as the first symptom, and for a time may exist alone. In the progress of the case, regular combinations of various kinds occur, and, finally, depending upon the extension of the process in the soft substance of the spinal marrow, spastic paresis and paraplegia of the lower extremities associate themselves. The oculo-pupillary symptoms are also dependent upon the disorder of the cervical muscles, and may be of diagnostic importance in a given case.

Prof. Chiari spoke of the pathological anatomy of syringomyelia, a name at the present time generally applied to every protracted cavity formation in the spinal marrow in adults. Surely the individual cases, as a careful analysis of respective reports shows, are generically widely different, as cavity formations in the spinal marrow in adults may result from gliomatous degeneration, from the persistence and progressive development of congenital anomalies of the central canal, from circulatory disturbances in the spinal cord, from myelitic softening and also, as Chiari, in a recent case, had the opportunity of confirming, from hyperplasia of the central connective tissue, with transudation into the previously normal central canal. Chiari, therefore, suggested that all cavities in the spinal cord associated with the central canal, be called hydromyelia, and that the termination "syringomyelia" be reserved for those not so associated.—*Deutsche med. Wochenschrift*, May 24, 1888.

A Case of Subcranial Hemorrhage treated by Secondary Trephining.—W. THORNLEY STOKER, in the *Annals of Surgery* for June, 1888, reports the case of a laborer, aged fifty, who had been rendered insensible by a fall from a cart. There was more or less complete left-sided paralysis, but no disturbance of sensation. The pupils were but slightly affected, the breathing was slow and stertorous, and the temperature and pulse above the normal. A bruise was found on the right side of the cranium, about one inch from the middle line, on that part of the scalp corresponding to the upper part of the fissure of Rolando. On the ninth day after the accident a trephine was applied, with antiseptic precautions, and a well-formed blood-clot between the bone and dura mater removed. Signs of returning brain power at once showed themselves, and the patient made an uninterrupted, good recovery.

The writer comes to the conclusion that in cases of intracranial injury involved in doubt we should operate, so long as evidence of such constitutional disease or local condition as points to apoplexy is absent.

Experimental and Clinical Contributions on the Action of Cocaine.—ROSENTHAL (*Wiener med. Wochenschrift*, 1888, No. 5) believes that the manifestations of increased arterial tension, and the central or local effect of the anæsthesia produced by cocaine, may be applied to the treatment of some symptoms of nervous disease and other organic affections. The methodical use of the

drug in the depressive form of neurasthenia, by increasing the arterial tension, caused amelioration of the nervous symptoms. Increasing doses ($\frac{1}{2}$ – $\frac{1}{2}$ gr. twice a day), given for weeks, relieved the abnormal impressibility, as well as the feeling of dread, produced a slight intoxication, cheerfulness and hopefulness, and gave the patient a fresher appearance, fuller pulse, better arterial tension of the radial, greater activity and stimulation of the mental functions.

Its action in some cases of *tabes dorsalis* was even more marked; the influence upon the frequent lancinating pains was most favorable. If a 3 per cent. solution were injected hypodermatically as soon as the neuralgic paroxysm manifested itself by circumscribed burning of the skin or hyperalgesia, subjective feeling of cold, paleness of surface, as well as weak and small pulse, in ten or fifteen minutes a feeling of bodily warmth returned, the circumscribed hyperæsthesia disappeared, the skin regained its redness and moisture, and the radial pulse became noticeably fuller and tenser, and in a half hour to an hour the patients could leave their beds. Corresponding injections of morphine, napelline and antipyrin failed to afford similar good results. Not only was their calmative influence less speedy than in the case of cocaine, but their use was also attended with a longer, more unpleasant and more general depression. On the other hand, the continued use of cocaine gradually makes more concentrated solutions (up to 5 per cent.) necessary, and frequently gives rise to unpleasant sensations in the stomach, lasting for hours, for which a little cognac was used and seemed effective.

In chronic diseases associated with dropsy, injections of $\frac{1}{2}$ grain diminished the oedema, it is true, only during the time of their use, probably by increasing the intrarenal pressure and the action of the heart.

The anæsthesia of cocaine may be made operative centrally or peripherally. Marked improvement in the *boulimia* (hyperorexia) dependent upon hyperæsthesia of the gastric vagus centres was noticed from the protracted use of $\frac{1}{6}$ to $\frac{1}{2}$ grain (twice or three times a day). In various forms of nervous cardialgia good results were noted when cocaine was given at the beginning of the attack, best in a solution of 2 to 3 grains to 5 ounces of water, a teaspoonful every fifteen minutes until the cramps were allayed.

As disease of the vagus nucleus has recently been repeatedly demonstrated in spinal cardialgias, Rosenthal believes that in the gastralgias occurring with severe emotional disturbances, in hysteria and neurasthenia, there is not stimulation of the terminal filaments of the sensory nerves in the stomach, but irritation of the bulbar vagus centres, and, as a result of his experience, recommends cocaine as particularly soothing for the excentric irritation.

In anorexia nervosa, due to a hyperæsthesia of the peripheral gastric nerves, with oppression and pain following every meal, cocaine given in the manner indicated before the meal, ought to repress the unpleasant sensations; just as, according to Weiss of Prague, the vomiting of pregnancy, even in severe forms, may be relieved by the administration of cocaine, 3 grains to 5 ounces of water, a dessertspoonful every half hour.

For the peripheral colicky pains in nervous, anæmic persons and those addicted to the morphine habit, cocaine, given in the manner indicated, does good

service; and in these cases the painful excitation of the special ganglionic apparatus in the wall of the intestine, which controls the intestinal movements, appears to be allayed in a manner similar to that in which the irritated gastric nerves are affected. Finally, the hyperæsthesias of the urethra and neck of the bladder in cases of neurasthenia sexualis, in nervous spermatorrhœa, or in consequence of persistent pollutions or excesses, are favorably influenced by weak, local injections, and allow of the methodical use of the bougie; as well as combination with rational hydraulic treatment, in order to overcome the obstinacy of the disorder. In conclusion, Rosenthal states that the annoying tinnitus aurium from the use of quinine or salicylic acid may be lessened by the addition of a small quantity of cocaine ($\frac{1}{2}$ gr. to 15 grains).—*Therapeutische Monatshefte*, May, 1888.

For Neuralgia.—DR. B. W. RICHARDSON recommends (*Asclepiad*, No. 18) the following formula in neuralgia:

R.—Croton chloral	gr. ij.
Quinia	gr. ij.
Glycerin	q. s.

To make a pill; to be taken when the attack threatens, and to be repeated every two hours until relief is obtained.

The Treatment of Excessive Perspiration.—BARDET, in excessive and odorless perspiration in the feet or axillæ, combines with bathing and the application of alcohol the use of the following powders:

French chalk (Talc)	40 parts.
Subnitrate of bismuth	45 "
Permanganate of potassium	13 "
Salicylate of sodium	2 "

To be finely pulverized.

Rice powder may be used in the following combination:

Rice powder	60 parts.
Subnitrate of bismuth	25 "
Permanganate of potassium	10 "
Powdered French chalk (Talc)	5 "

To be thoroughly mixed, and finely powdered.—*Les Nouveaux Remèdes*, May 8, 1888.

The Treatment of Furuncles of the Ear with Alum.—GRASCH reports good results from the use of alum in solution in furuncles in and about the ear. Pain was speedily relieved, suppuration was checked, and permanent recovery followed.—*Berliner klinische Wochenschrift*, No. 18, 1888.

Sabre-cut upon the Skull, with Indication for Trephining.—At a meeting of the Vienna Society of Physicians on May 11, 1888, NOTHNAGEL exhibited a girl aged eighteen, who nearly a year previous had received a sabre-cut from behind on the head, knocking her senseless. Half an hour later, when consciousness returned, paralysis of the right arm and leg, and diminished sensation, were present. The paralysis gradually disappeared, and the wound healed. Fourteen days after the healing of the wound convulsions occurred in the right leg, which were present when the patient was exhibited. The

upper extremity remained normal, the lower was paretic; the convulsions consisted of clonic spasms, rapidly following each other, and persisting for one or two minutes; there was no disturbance of sensation, but the muscle sense was impaired. The scar, four inches long, indicated the location of the lesion in the brain, at the upper extremity of the central convolution. The process going on Nothnagel diagnosed as a chronic disturbance of function of this region, or the periodic action of an irritant. The formation of osteophytes on the periosteum or pachymeningitis he considered the probable condition present. The treatment indicated is surgical interference, which offers an excellent chance of perfect recovery.—*Wiener medizinische Presse*, No. 20, 1888.

Atheroma of the Kidney.—In the *Archiv für klin. Chirurgie*, Bd. 36, S. 304, SCHLEGTENDAL reports a case of true, congenital calcareous atheroma of the kidney, in a man of twenty-two, found at the autopsy. The case is unique, as but one specimen of atheroma of the kidney (Museum of the College of Surgeons, New York, 1904) is mentioned by Paget.—*Fortschritte der Medicin*, June 1, 1888.

A Case of Extirpation of the Spleen.—PROF. C. LIEBMAN, of Trieste, in the *Centralblatt für Gynäkologie* of May 26, 1888, reports the case of a peasant, aged twenty-eight, who had never suffered from any grave disorder or intermittent fever. Since her second confinement, in May, 1885, she noticed a hard swelling to the left of and below the umbilicus, which for a long time remained stationary, and at first caused no discomfort. About five months before admission into the hospital, the swelling began to grow and became so troublesome that she was incapacitated for work, and asked for the removal of the tumor.

On the 25th of November, 1887, the patient was found pale and weak, with anæmic mucous membranes. Nothing abnormal was found in the chest. Liver dullness normal. The splenic outline was evident to the eye, and extended in the axillary line from the eighth to the tenth rib, with a longitudinal measurement of about two and three-quarters inches. The abdomen was enlarged by an ovoidal tumor, of the size of an adult's head, with a smooth surface, somewhat depressed in the middle, resting in the pelvic inlet, rather more to the left of the middle line. The tumor was evidently intraperitoneal, movable in all directions, and could be brought to the margin of the ribs on both sides, but not beneath them. The abdominal walls could be moved upon the tumor without friction sound. Distinct systolic blowing sounds could be heard over the tumor. The uterus was normally mobile, slightly retroverted; the left ovary could be distinctly felt, the right not. The uterus followed the lateral movements of the tumor, in so far that when the tumor was moved toward the right, the fundus uteri was distinctly pushed to the same side; on the contrary, the uterus scarcely moved when the tumor was drawn to the left. Raising the tumor, the uterus remained in place. Urine was quantitatively and qualitatively normal. Appetite moderate; digestion good.

The diagnosis of a neoplasm of the peritoneum, or of the ovarv, was made, and the menstrual period was awaited for the performance of laparotomy.

The operation was performed on the 13th of December. An incision about seven inches long, was made in the

linea alba. The great omentum exhibited enormously enlarged vessels, and entirely covered the accessible portion of the tumor. The hand was inserted into the abdominal cavity, and the uterus and atrophied ovaries found to have no connection with the tumor. The latter was easily removed, and proved to be the spleen, enlarged to about four times the normal size, its convex surface directed forward; the suspensory ligament of the spleen was tied with two ligatures. The hilus, of the thickness of the little finger, was divided by the blunt director into three parts (the middle containing the artery), and each mass tied separately; three-fourths of an inch toward the median line a single ligature was applied to the whole, another close to the spleen, and then the hilus was severed with scissors. The operation did not last long, and the loss of blood was slight.

The removed spleen, drained of blood, weighed 22.18 ounces, was 7.08 inches long, 3.93 inches wide, of homogeneous, firm texture.

The progress of the case was good, and the bandage was removed on the eighth day. The abdominal wound was completely healed by first intention. On December 21st, menstruation commenced, with dragging pains in the lateral abdominal regions, particularly on the left. On the second day of the menstrual period, the temperature suddenly rose to 105.2°; the pains became very severe, and an exudation to the left of the uterus could be detected. The exudate grew rapidly in the course of the following days. The high degree of anæmia, the rapid development of the exudation, its doughy consistency excited the suspicion that the parametritis was possibly hemorrhagic. As fluctuation could not be detected, treatment was expectant (quinine, antipyrin, tonics, ice-bags). The exudation then gradually diminished, and, after a month, was markedly reduced in size. The anæmia also improved. In a few weeks the patient was considered as completely cured, and, on the 28th of March, discharged.

Unfortunately, the blood was not examined prior to the operation. One hour after, however, with repeated comparative examinations, the white corpuscles were found increased seven-fold. In the course of convalescence, the leucocytes did not increase, so that, in this case, the influence of the extirpation of the spleen upon the increase of white corpuscles failed of demonstration. With the progress of convalescence, and with the strengthening of the patient, the number of white corpuscles naturally diminished, and upon the discharge of the patient only slightly exceeded the normal. During the whole time, enlargement of neither the thyroid gland nor of the lymphatic glands was observed.

Subsequent, repeated examinations by different colleagues confirmed the strange fact that the apparent splenic dulness was very varying; at times, it was very evident; at other times again, less marked, and, now and then, hardly detectable. Nor was its outline constant; at times it appeared larger, at other times smaller, and had a changing shape; in other respects, the dulness was normal, descending one intercostal space with full inspiration. Lieberman explains this by the presence of fecal masses filling the left flexure of the colon.

Leaving out the cases of partial or complete extirpation of the spleen after injuries to the organ, as far as the author can learn from the accessible literature, there have been forty-six instances of extirpation of the spleen (the

two of Zaccarelli and Ferrerius, cited by Crédé, in Langenbeck's *Archiv*, Bd. xxviii. S. 404, cannot be counted), with only fifteen recoveries. The apparently high mortality is explained by the fact that the operation was performed eighteen times for leukæmia, and all of these cases speedily terminated fatally. Thus, the fifteen recoveries are to be considered in connection with the remaining twenty-eight cases, in which the operation was performed for the most varying indications. If it be remembered that many of the operations belong to pre-antiseptic days, the mortality may be viewed as still less high.

Particularly fortunate were the results of extirpations of wandering spleens. The author is familiar with ten such operations (including his own), with eight recoveries: one each by Czerny and Martin, in Germany; Polk, Nilsen and Leonard, in America; Thornton, in England; and Ceci, Urbinati and Aonzo, in Italy. Only two were fatal. In Urbinati's case, the progress was favorable until the fourth day, when death occurred almost suddenly from twisting of the stomach, enormously distended with gas. At the autopsy there was no sign of hemorrhage or of peritonitis. The extirpation of the spleen *per se* was not the cause of the fatal issue. The woman operated on by Aonzo died in three hours, of shock; the splenic tumor weighing, without blood, 144.66 ounces.

It is not to be conceived why the extirpation of a floating spleen should have a worse prognosis than the removal of an ovarian tumor, when, on the one hand, it is considered that splenectomy, of itself, is not more difficult nor more dangerous than ovariectomy; and, on the other, that the animal economy suffers no particular injury in the ablation of the spleen, as the many experiments upon animals, the cases of loss of the spleen after injuries, and the as yet few successfully conducted extirpations prove.

Glycerin Suppositories for Habitual Constipation.—BOAS, in the *Deutsche medicin. Wochenschr.* of June 7, 1888, states that in a large number of cases he has had good results from the use of glycerin enemata as a purgative; but in some cases, particularly those with hemorrhoids, or in individuals with an irritable rectal mucous membrane, which readily bleeds, the use of the syringe is no slight objection, so that the injections must be intermitted or entirely refrained from. The use of the syringe is also inconvenient. For these reasons he has had prepared suppositories consisting of capsules containing 16 minims of pure glycerin, which he has used in twenty cases, with the best results. The suppositories have been found to retain their form and efficacy for many weeks. Fifteen to twenty minutes after using one there is a desire to go to stool, but without tenesmus or other discomfort; soon followed, as a rule, by a copious evacuation. The employment of glycerin *per rectum* seems specially indicated when, with the constipation, there exists gastric disorder.

Anthrarobin; a Substitute for Chrysarobin.—DR. BEHREND (*Viertel. f. Derm. u. Syph.*, 1888, 2 Heft, S. 261) has made experiments with a substance discovered by Professor Liebermann, of Berlin, named anthrarobin, which has an analogous action to that of chrysarobin and pyrogallallic acid, being less active than the former and more active than the latter. It produces less inflammatory irritation than chrysarobin, and does not present

the dangers of absorption which attach to pyrogallic acid. In dispensing, it requires to be rubbed up with olive oil before being mixed with the ointment basis. Ten and twenty per cent. ointments are used. Although it is insoluble in water, it becomes soluble by the addition of borax, and is also very soluble in alcohol and glycerin. Anthrarobin 10, borax 8, distilled water 80, is one formula; anthrarobin 20, borax 35, alcohol and glycerin each 90, is another formula. Anthrarobin stains the skin and linen, although not so intensely as chrysarobin, and so little irritation does it produce that it may be applied to the head and face, and even to the eyelids. The alcoholic tincture is preferred to the ointment, and the action of this substance is much increased if the part is washed with soap, particularly with potash soap, before it is used. It acted successfully in cases of psoriasis and erythrasma. It cures psoriasis less quickly than chrysarobin, but more quickly than pyrogallic acid.—*British Medical Journal*, June 9, 1888.

Laparotomy in Tubercular Peritonitis.—Of fifty-four cases of laparotomy in tubercular peritonitis collected by TRZEBICKY (*Wiener medicin. Wochenschr.*), four died from the immediate consequences of the operation, while in a fifth, death occurred, soon after the operation, from acute miliary tuberculosis, though the fluid had not reaccumulated. One case died, in four months, of general tuberculosis, without the peritonitis disappearing. Cures resulted in forty cases, though, here and there, advance of pulmonary tuberculosis was reported. The majority of cases were in females, which may find its explanation in the fact that most were operated upon under an error in the diagnosis of ovarian cyst. The statistics are yet too meagre, the correctness of the diagnosis not entirely above doubt, and the period of observation after operation not long enough; but, in view of the results, there is no longer any justification for expectant treatment. Even though, in some cases, recovery was not permanent, the fluid did not reaccumulate, and the patients were relieved of their distress. Spontaneous recovery from tubercular peritonitis is exceptional; and operative interference is indicated the more, as it would seem that, in many cases, tuberculosis of the peritoneum is a primary affection, and the source of general infection.

As all other therapeutical measures are futile in such cases, and laparotomy, under antiseptic principles, may be considered free from danger, the operation is certainly indicated. It consists in a free incision, and thorough evacuation of the fluid.—*Memorabilien*, May 31, 1888, from *Centralblatt f. d. ges. Therap.*, 1888.

A Rare Form of Quinine Eruption.—WERNER, of Markgröningen, relates the case of a woman aged fifty-nine years, who took six grains of quinine daily for headache, tinnitus aurium and vertigo. After the second grain, she had chills, and, during the night, pains in the joints of the hand and fingers. The fingers were uniformly yellowish-red, without swelling, and numb. Withdrawing the quinine, in three days the redness and all abnormal condition had disappeared. When twenty-four, the patient had a "sort of intermittent fever," for which she took quinine, without particular effect, but without any other manifestations. A year and a half later, taking quinine for facial neuralgia, large and small red spots with vesicles at once appeared all over body,

particularly at the joints of the upper extremity, which disappeared on the following day. Shortly after this she suffered with angina Ludovici. During convalescence, quinine was ordered, and, after the second dose, a red, burning eruption appeared in the neighborhood of the site of the operation. Eleven years later, one hour after taking quinine again for a facial neuralgia, she had rigors and an eruption on the arms.—*Therap. Monatshefte*, March, 1888, from *Württemb. Corr. Bl.*, 1888, No. 5, p. 35).

Codeine to Relieve Abdominal Pains.—DR. LAUDER BRUNTON states (*British Medical Journal*, June 9, 1888) that the results he has obtained from the administration of codeine have satisfied him that it has a powerful action in allaying abdominal pain, and it can be pushed to a much greater extent than morphine without causing drowsiness or interfering with the respiration or with the action of the bowels. It is, therefore, specially indicated where a dilated heart and consolidated lung tend to make one afraid of morphine. Codeine is also specially indicated where one wishes to relieve the pain without interfering with the action of the bowels. On the other hand, in cases in which there has been much diarrhoea, as in some cases of malignant disease of the colon or rectum, the absence of any tendency to lessen peristaltic movement is rather a disadvantage to codeine as compared with morphine or opium.

He has found that in cases of long-continued enteralgia without organic disease, it has continued to relieve pain for months together, without the dose being increased beyond one grain three times a day, and he found the same to be the case where the presence of a tumor, in addition to other symptoms, had led to the diagnosis of malignant disease.

The Treatment of Round Ulcer of the Stomach.—GERHARDT writes that dietetic treatment is the basis of all proper treatment in these cases; milk diet is most suitable for recent cases; peptones should be given preferably by enemata, as they often irritate the stomach. In hemorrhage and peritonitis enemata only should be given. Morphine should be used as little as possible. Chloride of iron should be prescribed when possible; the weak alkaline waters should be used (Carlsbad) except in very anæmic patients. Washing out the stomach should only be employed in recent cases, as the weakened stomach walls may rupture in old ulcers. In persistent pain in an empty stomach nitrate of silver is indicated. Condurango is an excellent tonic in old ulcers of the stomach. A gastric ulcer may be considered healed when the patient gains in weight, when gastric pains cease and when no sensitiveness on pressure exists over the epigastrium.—*Berliner klinische Wochenschrift*, May 7, 1888.

The Subcutaneous Injection of Antipyrin.—WOLFF, of Breslau (*Therap. Monatshefte*, June, 1888), thus summarizes the uses of antipyrin subcutaneously: 1. In muscular rheumatism. 2. For the chest pains of phthisis. 3. For the neuralgias of superficial nerves. 4. As an aid in diagnosis. 5. In attacks of asthma. 6. For painful conditions, when morphine is contraindicated, or to replace the latter, particularly in children and those who bear morphine badly.

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THE CAUSES OF PUERPERAL INFECTIOUS DISEASES.

AFTER the doctrine of the infectious nature of puerperal fever had been generally accepted, efforts were, of course, made to discover the ultimate cause. Especially did the youthful science of bacteriology give great impetus to such investigations. Though the results were fruitful, in so far as finding germs was concerned, yet they seemed to do little more than confirm what clinical experience had taught, namely, that the disease was not always due to the same cause. And just as erysipelas, sepsis, diphtheria and some other usually surgical diseases were looked on as the foci of infection, so, in later researches, the streptococcus pyogenes or that of erysipelas or sepsis or diphtheria was found in the lesions of those who succumbed to childbed fever.

But, while the diseases named were and are clearly distinguishable, their minute causes are by no means so. Microorganisms of the genus streptococcus are found as causes in erysipelas, phlegmon and some septic diseases, and as an accidental occurrence in diphtheria, in five conditions, which have many striking resemblances to each other. In appearance and mode of growth, they vary so little, that the points of difference are believed by many to be caused by variations in the nutriment. Inoculations show some, though slight, difference of action. The thought was, therefore, very near to consider them as identical, and assume that the resulting form of

disease owed its type to some peculiarity, variable or constant, of the individual. Or, it was urged, that the species underwent "variations," a view advocated with enthusiasm by bacteriologists with evolution theories fresh in their minds.

VIDAL has reported to the Academie de Médecine de Paris the results of his studies of the "forme septicémique pure" in puerperal fever, or typhoid type without suppuration (*Gaz. hebdom.*, No. 22, 1888). In all of his cases, he found the streptococcus pyogenes, and from this and the result of his culture and inoculation experiments, he comes to the conclusion that it is impossible, in the present state of our knowledge, to distinguish between the various forms of streptococci, and that one and the same form can set up any of the various forms of puerperal infection. In all of these conclusions, he is confirmed by DOYEN and by ARLOING (*L'Union méd.*, No. 74, 1888).

This is strong evidence, though it will require a much larger consensus of public opinion to settle definitely the questions as to the various kinds of streptococci, as well as the affections caused by them.

It is highly probable that many cases of puerperal fever, especially of the septicæmic type, are cases of mixed infection by putrefactive bacteria, and that to these are due the symptoms of intoxication by ptomaines, which distinguish some cases.

Practically, the unity or variety of the coccus is of no importance. Anti-bacterial remedies are no more potent against one form than another, and safety is only assured when all possible sources of infection are kept far away from the favorable soil offered by the *post-partum* genitals.

A STATUE TO THE PHYSICIAN-PATRIOT, BARTLETT.

ON the Fourth of July, at Amesbury, Mass., a handsome bronze statue of DR. JOSIAH BARTLETT, the revolutionary statesman, was unveiled; and the occasion was rendered memorable by a poem contributed by the poet Whittier.

Bartlett was born in Massachusetts, and there obtained his classical and professional training, but at the age of twenty-one he removed to New Hampshire, with which State his fame will ever be identified. For fifteen years he devoted himself earnestly and intelligently to medical practice, and acquired eminence therein; but in 1765 he became a delegate to the Provincial Assembly, and from that time on-

ward, for a period of thirty years, his activities were almost exclusively absorbed in public affairs. He was an ardent patriot—as were nearly all the doctors of his time, although, in the beginning, he was courted by the royalists on account of his commanding abilities and popularity.

He was born for leadership, and he had all the heroic qualities that made him worthy to participate in the stirring events of the revolutionary period. He was a member of Congress on that eventful July day, when the roll was called, with Bartlett's name the first upon the list, and he voted "with bold and unwavering voice" to declare the independence of the colonies. As a signer of the Declaration his name is immortalized and stands second, that of Hancock, the President of the Congress, alone preceding it. He also, for his State, subscribed to the Confederation of 1778, in the forming of which he assisted. He carried a sword into the field, and was present under Stark at the fight at Bennington. After the peace, he was elected to many of the highest offices in the gift of people; he was Chief Justice, and Governor, and Senator-elect to Congress.

To Bartlett, as the patriot and statesman, it is fitting that such honor as the sculptor and poet can accord should be given. Of Bartlett, as a physician, comparatively little is known, except that he appears to have been both scholarly and independent. It is said that he favored the use of Peruvian bark in malignant sore throat, epidemic during his time, and in some other conditions in which its employment was frowned upon by the profession of that day; and that he was one of the founders of the Medical Society of New Hampshire, and was its first President from 1791 to 1793.

In addition to Bartlett, four other physicians have the undying honor of having been signers of the Declaration of Independence, namely, Benjamin Rush, Matthew Thornton, Oliver Wolcott and Lyman Hall.

HOSPITALS ON THE HIGH SEAS.

A PROPOSITION has been made by the *Lancet* in favor of fitting out ships for the accommodation of phthisical patients and of convalescents generally, with the object in view of supplying these cases with the purest of sea air. These vessels, it is recommended, will cruise within easy reach of such ports as will afford them fresh vegetables and water; and, according to the season, they will sail either in southern or northern waters. They will have a staff

of efficient medical officers; and every appliance and means of treatment will be provided.

There are very many persons who, with ample means at their command, are suffering from lung-hunger and lung-thirst and might regain their lost health if they could, in some manner, get access to the limitless supplies of fresh and pure ocean air, for the like of which they pant at home. It is claimed for the cruising ocean hospital that it will combine certain advantages which are sought to be obtained, but not always with success, by the construction of sanitariums at great elevations to provide phthisical and other invalids with an abacterial air; more especially will it enable a change of location at the bidding of the seasons; it will bring its inmates into contact with air that is salt—and tonic, on that account, to a large proportion of respiratory patients, and not unduly rarefied, and it will avoid some of those excessive fluctuations as to the humidity and temperature of the air that are experienced at some of our land health resorts.

THE Massachusetts Medical Society having found that the essays placed in competition for the Shattuck Prize were rarely worthy of the prize, which, on the last occasion, amounted to one thousand dollars, has decided to divert the fund to the purposes of a "Shattuck Lecture" to be given on some subject in accordance with the original provisions of the bequest. The lecture is to be delivered at the annual meeting of the Society, and the honorarium for it and its publication are to be defrayed from the income of the Shattuck Fund.

A VERY unusual event is the governmental suppression of a medical journal, which has recently taken place at Cairo, Egypt, in consequence, it is alleged, of an article upon Asiatic cholera and the necessity of a rigid quarantine of all vessels from Indian ports. The journal in question was a struggling little periodical, published in Arabic, and called the *Shifa*.

The event is described in a letter by Dr. Grant-Bey to the *Albany Medical Annals* for June, in which he states that he was the author of the obnoxious article, and that strong views in favor of a genuine quarantine against cholera are regarded as highly injurious to the trade interests of England, and that for this cause the little *Shifa* was smothered by the authorities. Dr. Grant-Bey also says that the offending article was in part undertaken and written

for the *Shifa* in order to describe to the native physicians a visit made to him by Virchow, who was at that time in Egypt with the explorer Schlie-mann, and who, on all suitable occasions, sought to impress upon the Egyptians the importance of hygiene and of adopting modern sanitary methods. This, moreover, we learn from the London *Lancet*, was the theme of Prof. Virchow in an address before the Medical Society in Cairo, newly organized under the presidency of Dr. Salem Pacha.

THE American Otological Society will hold its twenty-first annual meeting at the Pequot House, New London, next Tuesday, and on the following Wednesday and Thursday, July 18th and 19th, the American Ophthalmological Society will hold its twenty-fourth annual session at the same place.

THE thirty-sixth annual meeting of the American Pharmaceutical Association will be held at Detroit on September 3d.

THE faculty of the New York Polyclinic have decided to increase the clinical facilities of that Institution by establishing a spacious hospital immediately connected with the college building. It will be opened for the reception of patients in October next.

THE eighth annual meeting of the Lehigh Valley Medical Association will be held at Paxinosa Inn, near Easton, on Wednesday, August 15th.

THE "Société d'Ophthalmologie de Paris" was organized at Paris on June 12th. It is an association of ophthalmologists, to which only Frenchmen are eligible to membership, but which will receive and discuss communications from specialists of all countries. For 1888, Chevallereau is President, Chauvel Vice-President and Gorecki Secretary.

SCANZONI has resigned his position as instructor at Würzburg. The authorities have conferred upon him the honorary privileges of citizenship.

THE Seventh International Ophthalmological Congress will be held at Heidelberg, August 8th to 11th, and a number of American ophthalmologists have gone abroad to participate in its proceedings.

A HYGIENIC Exposition will be opened at the Industrial Palace, in Paris, on July 20th. Among

the members of the committee in charge are Berthelot, Larrey, Dujardin-Beaumetz and Monin.

PROF. ADAMKIEWICZ has resigned his chair at Cracow, to reside at Berlin.

PROF. LEUTHOLD, of Berlin, has been made body physician to the Emperor William.

THERE are 4767 attendants at the current session of the Berlin University.

REVIEWS.

OPHTHALMIC SURGERY. By ROBERT BRUDENELL CARTER, F.R.C.S., Ophthalmic Surgeon to St. George's Hospital, etc.; and WILLIAM ADAMS FROST, F.R.C.S., Assistant Ophthalmic Surgeon to St. George's Hospital, etc. Illustrated with a chromograph and 91 engravings. 12mo. pp. 554. Philadelphia: Lea Brothers & Co., 1888.

IN joint authorship it is common for the senior, or more widely known associate, to lend his counsel and the prestige of his name; while the junior writes the bulk of the book. But in this case the custom has been honored in the breach. To each chapter are appended the initials of the writer; and we find, of fifteen chapters, eight, including 282 pages, are signed R. B. C.; while seven, covering 250 pages, are from W. A. F.; and the literary style of the different chapters attests the truth of the signatures. In the division of subjects, most writers would think that Carter had had the first choice, his including anatomy and physiology, examination of the eye, diseases of the cornea, sclera, iris, the lenticular system, optic disk, retina and choroid, glaucoma, amblyopia, and amaurosis. Still Frost, among affections of the eyelids, lachrymal apparatus, and conjunctiva, the vitreous, ocular muscles, and orbit, injuries, errors of refraction, and color vision and its defects, finds some subjects that he is especially competent to discuss, his account of the refraction of the eye and its anomalies being particularly good.

The work contains nothing of importance that is entirely new to the literature of ophthalmology. But there are many things to be found in the current periodical literature, which have not, heretofore, found place in the text-books. Matters like the omission of iridectomy, or of subsequent bandaging, in cataract extraction; the use of passive motion in ocular palsies; the new substitutes for enucleation; the appearances of air bubbles in the vitreous; the recent scepticism as to *amblyopia ex anopsia*, are all mentioned, although on most of these points the writers express rather conservative views. And, what is almost unique in a book of European authorship, the writings of American ophthalmologists are very fairly treated.

The chapter headed "Anatomy and Physiology" might, with equal propriety, have been headed Diagnosis; for it is devoted mainly to that most important branch of diagnosis—the differentiation of morbid from normal

phenomena, and the anatomical and physiological explanation of symptoms." The facts, well presented in this and the succeeding chapter, on the Examination of the Eye, should be familiar to every general practitioner of medicine.

Mr. Carter well urges, as the first canon in the treatment of keratitis, or iritis, "the negative one to do no mischief;" and he supports it with an interesting experience of the bad effects of irritant (so-called astringent) collyria in the latter affection. What is said of irritants in keratitis is also good. But he does not sufficiently bring out the fact that obstinate inflammation of the cornea is very often dependent on inflammation of the conjunctiva lining the lids; and while it is very important to keep silver nitrate or copper sulphate off the cornea, to effect a cure, it is equally important to apply them regularly and effectively to the surface of the everted lids.

In appendices are given specimens of Snellen's distance test-types, reading types after Jäger, the groups of dots used for testing vision in the army, and formulæ. Among the latter we note that for a solution of homatropine hydrobromate, six grains to the fluidounce, not strong enough to be relied on to paralyze the accommodation. While of boric acid, which, in powder, produces no marked effect when dusted on the conjunctiva, a solution of four grains in the fluidounce of water, is spoken of as "a mild astringent for conjunctivitis." This suggests the question, Do we sufficiently appreciate the "astringent" properties of pure water?

SOCIETY PROCEEDINGS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, June 13, 1888.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. WILLIAM H. PARISH read a paper on

THE MANAGEMENT OF DELIVERY PRIOR TO THE SEVENTH LUNAR MONTH.

In the management of delivery prior to the seventh lunar month, he said, the welfare of the mother is alone considered. The non-viability of the embryo or foetus removes it beyond consideration. It is true that the question as to whether the threatened abortion or miscarriage is inevitable or not will frequently arise, and will challenge most anxious study, for upon the continuance of the pregnancy hangs the life of the intrauterine being if it is still living. His purpose, however, in this brief communication was to discuss the management of only the inevitable deliveries prior to the viability of the offspring, and not to treat *in extenso* of any other part of the general topic of abortion or miscarriage.

Delivery during the early weeks of pregnancy is attended with a minimum of risk to life, yet subinvolution, often with endometritis and endosalpingitis, frequently follows such an abortion. About the third month, begins the actual danger of death from hemorrhage and septicaemia, and this danger increases as the period of pregnancy at which delivery occurs advances, up to the time when viability of the child begins and the phenomena of labor at full time more or less pertain. It should be borne in mind that crippling of the functional sexual

capacity of the woman is liable to result whatever the period of non-viable delivery.

The treatment of such a delivery is divisible into the expectant and the active plans. The chief difference between these two plans consists, on the one hand, in securing artificially the emptying of the uterus if nature does not effect this promptly, while, on the other hand, such interference is strictly avoided, at least until symptoms determine danger to the patient. During the early weeks, there not arising practically any danger of loss of life, the plan of non-interference is not departed from by its advocates, and is adopted by not a few of those who resort to the more active treatment in the more advanced deliveries.

In early abortions, say prior to the end of the second month, in addition to rest for eight or ten days in bed or on the lounge, he has practised during late years antiseptic cleansing of the uterine cavity by means of one injection of a corrosive sublimate solution 1 to 4000; after the escape of the ovum he resorts to only one injection and always uses a return-tube catheter. He has not thought it necessary to resort to the curette prior to the second month, except when by reason of instrumental interference septic infection is especially liable. During the third month, in addition to the antiseptic intrauterine injection, he uses a smooth wire curette, preferably immediately after the escape of the ovum, resorting at the same time to the injection. It is during and after the third month that dangerous hemorrhage may arise. If the patient is confined to the recumbent posture, danger from this source, however, rarely occurs. If the bleeding appears, however, before the os is sufficiently dilated to admit of emptying the uterus, he tampons both the cervical canal and the upper vagina. For this purpose he prefers strips of baked cloth, because of the ease of introduction and of removal. Antiseptic syringing is resorted to both before the introduction and after the removal of the tampons. The tampon should not be resorted to as a routine treatment. Hemorrhage that is not controlled by the postural treatment and by cold applications is the only indication for the tampon. After the os is dilated, the best way of treating the hemorrhage is to empty the uterus and to inject into its cavity hot antiseptic water.

In the absence of serious hemorrhage, the rule to avoid rupturing the membranes should be rigidly adhered to, inasmuch as an unbroken ovum tends to prevent or to check hemorrhage, and if the ovum is delivered with unbroken membranes, the placenta is most likely to be expelled in an intact condition. If the membranes have been broken, the embryo or foetus usually escapes from the uterus, while the placenta and membranes remain within the uterus and are probably adherent to it. Suppose the embryo or foetus has escaped; then, as is well known, the placenta and membranes will usually be expelled within twenty-four hours; yet in a large proportion of cases they will remain within the uterus for days, weeks or months. Does the continuance of the placenta within the uterus for even a few days at a non-viable period of pregnancy bring dangers to the patient? The answer to this must be absolutely in the affirmative. Such danger is a very considerable one to life, from both hemorrhage and septic infection. And even should the patient escape with her life, he does not believe that any ever escapes without serious injury to the childbearing

apparatus. Under such circumstances, arise conditions which are likely to produce sterility or to determine subsequent abortions. Such patients suffer, it may be throughout their sexually active lives, with disturbances of the functions of the vagina, uterus, tubes, ovaries, bladder and rectum, with varying degrees of other local and constitutional suffering.

Septic changes of the products of conception under such favorable conditions of warmth, moisture and contact of atmospheric air are developed so rapidly, that although absorption is probably not as rapid as at or near the full period of gestation, no one can say how soon the process of septic infection begins. The incipency of such blood-poisoning is not heralded by any definite symptom. Even the rise of temperature, as shown by the thermometer, is not fully reliable unless observed every hour or two, and to wait until hemorrhage, or a rapid pulse, or a chill, or decidedly high temperature supervenes will prove in not a few instances to be waiting until a fatal result is inevitable. Or, should the uterus have emptied itself within a few days without evidence of danger of death, still in the great majority of such cases he believes that grave, and it may be permanent local damage will have resulted. We are told to let the placenta remain until there are evidences of danger, and then to remove it. Wherein is benefit to be derived from such a rule of practice? Is it not wiser to take due precautions against fire than passively to await the development of flames within the building? An abortion or miscarriage is a non-physiological accident; it is unnatural and pathological. There is no weight then in the argument that artificial removal of the placenta is unnatural and unphysiological, and hence should not be resorted to. Its retention brings to the woman her greatest danger, both as to life and to future usefulness. A uterus promptly and rightly emptied, uninjured by traumatism and rendered aseptic, becomes a source of comparatively little, if any, danger.

As in labor after the child has become viable, so in abortions or miscarriages, ergot is of great service after the uterus is empty. It then encourages involution, checks excessive lochial flow, expels clots and lessens septic absorption. Before the uterus is empty, this drug is seldom of more than limited value, and often is productive of actual harm.

When the hemorrhage is considerable and the ovum is intact, its administration will aid in controlling the loss of blood, but even here the tampon is usually sufficient. He believes that he has repeatedly seen the use of ergot retard the completion of the delivery by determining an undilatable condition of the cervix. Such belief has been strengthened by finding that under such circumstances the administration of an opiate hastens the delivery by relaxing a cervix that has been rendered rigid by ergot. In incomplete miscarriage there is nothing more uncertain than the action of ergot. After its use, the uterus may not empty itself for days or weeks, while the cervix closes so as not only to prevent the escape of the placenta, but also to prevent easy artificial extraction.

If you decide upon emptying the uterus, what is the best method of doing so? Prior to the third month, the small size of the cervical canal renders the introduction of the finger difficult, and the curette is here sufficiently efficient, either before or after the escape of the ovum.

The thickened decidua may then be readily removed with this instrument.

After the third month, we have chiefly the placenta to deal with, and here the introduced finger is safer, more efficient and more reliable than any curette. The finger more thoroughly and more certainly removes all the products of conception, and tells the presence or absence of such complications as polypi, fibromata, etc. When reliance is placed solely on the curette, the uterus may be supposed empty when it is not; fragments of placenta and of membrane, or even the entire placenta may be left, with extreme risk to the patient.

If one is present at the time of the escape of the embryo, and the placenta remains, he should at once, while the os is dilated, introduce his finger into the uterus, and while depressing and steadying the uterus with the other hand over the abdominal wall, dissect off *en masse* and completely the secundines and remove them. To effect this, it may be necessary to give an anæsthetic. After emptying the uterus, it should be at once syringed with a hot corrosive sublimate solution.

There will be, in all probability, no indication for a repetition of the intrauterine injection, though daily intravaginal antiseptic syringing for eight or ten days has been the author's practice. If the case is not seen until several hours have elapsed, and the placenta is still within the uterus, and ergot has not been administered, the os will be sufficiently dilatable to admit of an immediate resort to the prompt treatment. If, at that time, the cervix has already contracted because of ergot, the suspension of the ergot and the administration of an opiate, with non-interference of a few hours, will secure a dilatation of the os to such an extent as to permit the emptying of the uterus with the finger. If a number of days, or weeks, or months, have elapsed and the symptoms indicate an incomplete emptying of the uterus, and the cervical canal is closely contracted, it will be better to dilate either with laminaria tents or with graduated bougies, and to introduce the finger, than to rely upon any form of curette. After grave septic poisoning has occurred, a cervical canal that has been previously contracted undergoes a relaxation, and the placenta becomes detached or is so loosely adherent that its removal with the finger is usually a very simple procedure, and is, according to even the expectant practitioner, urgently demanded; but, immediately following removal of the placenta under such circumstances, evidences of more intense poisoning are frequently observed, and in many such cases a fatal termination eventuates.

There is but one form of curette that should ever be used for the removal of any of the products of conception. The perfectly dull wire curette is the only safe one. Every form of the sharp-edged instrument should be absolutely avoided. Simon's scoop is a dangerous instrument in the hands of the most careful. Much of the opposition to the curette is based upon the use of that or other cutting instrument. Even with the dull wire, due caution must be used not to injure the uterus. A softened womb may be penetrated by even a dull instrument. Dr. Parish's preference for the finger over the curette is based, however, rather upon the uncertainty as to the efficient working of the dull curette than upon its dangers. It would seem scarcely necessary to caution any one not to mistake the somewhat elevated and roughened placental site for portions of the placenta itself; but in one instance

he saw such a mistake made by an inexperienced gentleman who made active efforts with Simon's scoop until the uterine tissue was extensively gouged into by that dangerous instrument. Experienced men have left large masses of placenta—in fact, the fetus and its placenta both—in *utero* after the cavity has been curetted. The possibility of double pregnancy with separate placentae must not be lost sight of. He has seen an instance in which the physician removed with his finger, under anaesthesia, one fetus with its secundines, and left within the uterus, unrecognized, a second fetus and its placenta, until uterine contraction secured their expulsion.

Dr. Parish did not refer to the various complications of non-viable deliveries. They are numerous, and may call for special additional measures, but the management of the delivery rests upon no peculiar principle. Criminal abortion brings with it greater dangers, but usually the management does not differ materially from that of the non-criminal delivery. In the criminal variety septic infection may occur before the abortion or miscarriage has begun, and the expectant plan of treatment is attended with the greatest dangers. An injudicious introduction of the sound may engender a septic inflammation of the endometrium and determine a fatal result, before any part of the ovum is expelled. Under such circumstances, non-interference contributes to death.

In inevitable abortion he has repeatedly emptied the uterus by compressing the body between two or three fingers within the vagina and in front of the uterus, and the other hand over the abdomen. He has also secured, in a few instances, a prompt ending of an incomplete abortion or miscarriage by the injection of hot water into the uterine cavity, of course securing its ready outflow. The hot injection awakens active corporeal contractions with cervical relaxation, and, if the fluid is antiseptic, diminishes the danger of infection.

DR. WILLIAM GOODELL took exception to but one point in this admirable study, and that was, to the use of the dull curette. He has given up the use of the dull curette, for several reasons. There is great danger of wounding the endometrium in its soft, thickened and vulnerable state. Then there is this very danger, the speaker had mentioned, of mistaking the placental site for tissue that should be removed, and the further danger, which he also admitted, of perforation. He was sure that he once penetrated the wall of the uterus with a sound, and without using any force—though, fortunately, he escaped an evil result. There is danger of wounding that portion of the uterine wall which is not at all implicated, if he might so express it; and especially, two or three days after the abortion, would this cause a liability to the creation of a fresh raw surface upon perfectly healthy tissue, with additional danger of infection. He uses two styles of forceps, one a small catch-forceps, which will seize anything that projects, or, still better, a small fenestrated polypus forceps, which can grasp any projecting mass, however small, and that only.

DR. REGAR asked how we can tell that the uterus is completely cleaned out? The finger cannot always determine with certainty. How long are we to keep up examinations and attempts at cleansing?

DR. J. B. WALKER thought that as long as the os is patulous the uterus contains something that needs removal: after removal contraction will occur. That has

been his experience in several cases. He would ask Dr. Parish whether the rule holds good in all cases?

DR. H. A. SLOCUM rather feared to follow the advice given to permit the ovum to escape entire. He remembered two cases which fortunately terminated favorably, but which gave him much anxiety, in which the escape of the ovum entire was followed by alarming hemorrhage. One of these was in a well-developed florid woman who had a history of repeated miscarriages. When he was summoned, she was bleeding slightly, and the labor pains were strong and constant. With his finger in the vagina he waited for the ovum to be expelled entire. It came with a gush of blood that blanched the ruddy face of the patient and left her pulseless. He was compelled to remove the pillows, elevate the foot of the bed, and with finger and hand endeavor to excite uterine contractions, after which, with hot water injections and other appropriate measures, the bleeding was controlled. When a uterus is distended with its contents, and the placenta leaves its site, and the large mass is suddenly expelled, it seemed to him that the sinuses will be left wide open, and the contractile vigor of the uterus will not suffice to close them.

He agreed with the advice to remove the placenta as soon as possible. He recalled a case, however, in the practice of a distinguished practitioner, in which, for what reason he did not know, it was left for six weeks free in the cavity, becoming hard and leathery, and was then removed under anaesthesia. His only connection with the case was to give ether, so that he knew nothing further of the circumstances than that the placenta remained for six weeks without giving rise to any bad symptoms.

DR. W. E. ASHTON took exception to the speaker's low estimate of the value of ergot. While it is contra-indicated, except with a tampon, yet if the tampon be introduced and ergot then administered, the effect will be much more prompt and sure, and the presence of the tampon will prevent anything like hour-glass contraction. After a complete abortion he should consider intrauterine antiseptic irrigation uncalled for, and rather dangerous as tending to introduce air, and, therefore, germs, into a uterus which is otherwise in an aseptic condition.

DR. PARISH said, in reference to the use of the dull wire curette, Dr. Goodell could not have heard his remarks, or he must have failed to express himself clearly. He does not use it except at one stage, that is the third month; never after the placenta has been formed. He prefers the finger for many reasons, as he stated. Even with the dull instrument there is some risk of injury, and the method is unreliable. Dr. Goodell and he accord perfectly after the third month. Before the differentiation of the placenta, however, the smooth wire curette will detach and remove the deciduous membrane with no danger. He has used forceps, though not exactly the same form as spoken of, but the objection is that we cannot be sure with any form of instrument whatever that the uterus is empty. The finger alone tells us that. It is not only a therapeutic but a diagnostic appliance. It must be very rare for the uterus to possess the power to expel the ovum unaided and then fail to take care of itself. There must be some special morbid condition to which the hemorrhage is due. In the case narrated by Dr. Slocum, with its history of frequent miscarriages, he should have suspected a polypus.

He combines the use of ergot with the tampon, should the latter be insufficient when the ovum is intact to give a smooth mass on which to contract. Antiseptic injections are indicated after such a pathological process as a miscarriage. He doubted if the uterine cavity usually closes air-tight after such a process. Not infrequently there is a separation of the uterine from the fetal layer of the placenta, with adhesion of the uterine portion. This adherent maternal layer is liable to give rise to septic inflammation and general infection. The patulous condition of the cervix is, to some extent, an evidence that the uterus is not empty, but the reverse does not hold good. It would be unsafe to conclude that everything had been expelled because the os is found to be contracted.

THE ONTARIO MEDICAL ASSOCIATION.

*The Eighth Annual Meeting, held at Toronto,
June 13 and 14, 1888.*

(Specially reported for THE MEDICAL NEWS.)

(Concluded from page 25.)

THURSDAY, JUNE 14TH.

DR. A. HALFORD WALKER, of Hamilton, read a paper on the

TREATMENT OF NEURASTHENIA AND HYSTERIA BY REST.

After referring to the distinguishing characteristics of the two diseases, so frequently associated together, the author took up the question of the causes of the great increase of neurasthenia during the past few years, which he enumerated as follows:

1. Hereditary predisposition.
2. The school system of the present day, which he strongly and justly condemned, showing how utterly impossible it is for young girls to obtain sufficient recreation to enable them to become healthy wives and mothers, if they follow the curriculum and apply themselves sufficiently to their studies to keep abreast of their work.
3. Monotony of occupation. He strongly advised every one to have some pursuit outside of regular business, to cause a healthy reaction between body and mind.
4. The marriage of weakly people, which tends to produce offspring of the neurasthenic type.

He then considered the question of treatment, and showed by illustration what it is capable of doing after all other means have failed.

DR. BRAY, of Chatham, read a paper on

UTERINE HYDATIDS,

giving details of two cases, with expulsion of the contents of the uterus and recovery.

DR. MCPHEDRAN, of Toronto, showed a case of

SPLENIC LEUKÆMIA,

in which the spleen was very large. The patient was a clergyman, aged thirty-nine years, who enjoyed good health up to within three months ago, when the splenic enlargement was noticed. When first seen by Dr. McPhedran, one month ago, there was one white to thirteen red corpuscles, and the red were reduced to about sixty per cent. of normal, and they appeared deficient in coloring matter. Now the ratio was one to eight and one-third, but the red were decidedly of a deeper color, though

reduced to only one-half the normal number. There were, besides, many hematoblasts. Notwithstanding this further depreciation in the character of the blood, the patient was feeling more buoyant and believed himself much better. The blood was demonstrated to the Association by a number of microscopes.

DR. HUSBAND, of Toronto, read a paper on

LIFE INSURANCE AND THE RELATION OF THE PROFESSION THERETO,

in which he set forth the duties of medical men in examining for insurance, that the work should not be done cursorily but conscientiously, as otherwise life insurance could not be successfully carried on. The general opinion of the Association seemed to be that the fee insurance companies allow is altogether inadequate to the duties to be performed.

DR. MCFARLANE, of Toronto, read a paper on

LAPAROTOMY FOR INTESTINAL OBSTRUCTION.

After pointing out the inefficiency of the methods of treatment pursued up to the present, he emphasized that laparotomy is the only rational course to adopt, and that it should be resorted to early and under the most careful antisepsis. The various steps of the operation were described, and the necessity for the greatest attention to all the minutæ impressed upon all his hearers. The difficulties to be overcome were: (1) retaining the distended intestines in the abdominal cavity; (2) finding the seat of obstruction; and (3) deciding on the best method of dealing with it. Puncture of distended bowel was objected to as not safe; large, flat, warm sponges should be used to retain them in the abdomen. To locate the seat of obstruction, pass in the hand and examine all possible seats of hernial protrusions. Treves advises then to examine the cæcum; if not distended, the seat of obstruction will be above the colon. Then trace the small intestine up till the obstructed point is reached. If a part of the bowel is gangrenous, the question lies between making an artificial anus and excising a portion of the intestine. Of these two steps, the author was inclined strongly to advocate enterectomy in preference to an artificial anus. Illustrative cases were then cited. In conclusion, the writer urged the importance of early operation, as gangrene of the bowel has been known to occur within thirty-six hours after obstruction.

DR. YEOMANS, of Mount Forest, for diagnostic purposes, classified these cases as follows:

1. Mechanical, as volvulus, intussusception and hernia with strangulation.
 2. Inflammatory, as peritonitis, enteritis, typhlitis.
- Operative interference should be promptly resorted to in the first, and the expectant plan in the second.

DR. RICHARDSON, of Toronto, had no positive, but much negative evidence to offer in these cases. He had seen many cases die for want of operation, but he had seen no case relieved spontaneously. Hence, operation is to be recommended in all cases in which there is any probability of affording relief. He related a case in which obstruction had resulted from gas being forced through an ulcer in the mucous coat, causing separation of the mucous from the muscular coat, and thus pressing the mucous membrane to the opposite as completely to occlude the bowel.

DR. TEMPLE, of Toronto, read a paper on

THE RANGE AND USEFULNESS OF PESSARIES,

in which he said that with increased experience he resorted to pessaries less and less. Many cases which he formerly so treated he now relieved with tampons and suitable applications, not forgetting the general health of the patient.

PUERPERAL ECLAMPSIA, AND THE USE OF PILOCARPINE.

DR. IRVING reported a case of puerperal eclampsia treated first with morphine, potassium bromide, chloral, bleeding and croton oil. These measures failing, and a fatal issue seeming inevitable, one-third of a grain of pilocarpine was given hypodermically. In about ten minutes, the dusky hue of the skin became changed to a natural color, and profuse perspiration, salivation and bronchorrhoea ensued. The convulsions, which had been very frequent for many hours, ended only two hours after action of drug began. Coma and stertorous breathing gradually gave way to peaceful slumber, and patient made a good recovery. Her urine had been laden with albumin. There was only slight pitting of ankles.

DR. OLMSTED, of Hamilton, then read a paper on

THE ANTISEPTIC TREATMENT OF INJURIES OF THE HAND.

He cited a number of cases to show the wonderful vitality of the hand and nature's ability to repair badly lacerated tissues, and by so doing making a protest against heroic surgery. He pointed out the advantages of moist dressings in badly lacerated wounds and the advantages of an early incision in palmar abscess, and the insertion of a short drainage tube in neglected cases. The whole hand should be enveloped in oakum which had previously been soaked in a solution of bichloride, a ring of oakum being placed around the drainage tube to prevent any obstruction to the outlet; wax paper or Mackintosh covering the whole.

THE REPORT OF THE COMMITTEE ON NOMINATIONS

was made as follows, and that the next place of meeting be Toronto.

President.—Dr. W. H. Henderson, of Kingston.

Vice-Presidents.—Dr. Geikie, of Toronto; Dr. Howitt, of Guelph; Dr. Day, of Trenton; and Dr. Aikman, of Collingwood.

Corresponding Secretaries.—Dr. Lovett, of Ayr; Dr. Gillies, of Teeswater; Dr. Trimble, of Queenston; and Dr. Leonard, of Napanee.

Treasurer.—Dr. N. Powell, of Toronto.

Secretary.—Dr. D. A. Gibbishart, of Toronto.

The Association then adjourned.

CORRESPONDENCE.

THE OCTO-CENTENARY CEREMONIES AT BOLOGNA.

(From an Occasional Correspondent)

BOLOGNA, when we arrived, was like an ant's nest stirred with a stick: flags, people, pretty women, students, soldiers—amusing and confusing. It was the day before the celebration began, and we had time to see the town in a night drive; the people were dim shades under the endless, arcaded streets; now and then a priest or two

like darker shadows. The gray walls of the old city lacked nothing but the color of flags, court-dresses, soldiers and window-drapes to make the picture perfect.

On Tuesday, at 10 o'clock in the morning, we went to the great hall of the Syndic. The crowd at the door was dense, but we struggled in and wandered through vast museums and libraries with low bookcases, and over them the coats-of-arms of distinguished students. The servants were in black, with steel chains, silk stockings and pumps, and, in the crowd, soldiers and students in gowns of the red, yellow or black of various universities lent a color, amid a babel of tongues, all defiling into a great, arm-blazoned hall. On a platform stood Guerrachi and Capellini, Rector of the University, who presented us *en masse* to the Syndic.

At four, we put on our dress-coats to go see the King unveil Victor Emmanuel's statue. It was hot to slay as we went through the municipal palace to the Cathedral Plaza, where seats had been built in the big oblong square. Behind lies the civic palace, to the right the huge gray front of the unfinished Duomo, to the left the grand façade of the palace of Barbarossa's grandson, and in front a vast palace, now a bank. From every window hung red, yellow, blue and gold draperies, royal arms, gold on scarlet. In the middle of the seats was a dais with three velvet seats, and over it a crown and endless banners. Every one was in full dress, with chains, ribbons and decorations. When we were seated, the whole vast space filled with students in fancy dress and caps of many colors; next came soldiers and a dozen bands. Every window was full and 25,000 people in the plaza, with thousands of red, white and blue fans going, and at last the King and Queen and Prince came, and the band rolled out the Hymn of Italy, and a great roar arose "Viva el Re!" The statue was unveiled, some one made a speech and it was over.

Next morning early, we were all at the civic palace, and each delegation waited under its banner for tickets to be given out for the Syndic's dinner in the evening. The scene was curious. Universities from Melbourne to Harvard were represented by costumes past belief, gowns and hoods of all tints; all the French in yellow silk, one Hungarian in black with coral and gold buttons, gold lace, full cravat, etc.

Then we marched through the crowded and draped streets to the University.

The hall was a vast open court, two arcades high, filled above with men, women and uniforms, the pillars covered with lilies, roses and daisies—the Queen's flowers, the throne on one side, twenty feet from us, the bands all in the upper arcade, the students, with their old, battle-torn flags, in the outer circle below. The King, Queen and Prince came in and sat down, while the delegations in succession presented their addresses, one member speaking for all—Story for us; then we were presented to the royalties, shook hands with the Rector and fell back again, and so on from nine to two—the heat intense. In the evening, a good dinner at the Syndic's, round us a lot of Oxford Dons and Yankees—no speeches, and music low and gentle.

Next morning at nine, we met again in the covered court of the Archiginnasio—throne, flags, students, bands and gowns. The Deans of the Faculties read each a brief Latin exhortation, and then a list of the *laureati*, those

receiving the honorary degrees, Lowell in letters, some dozen in law, Agassiz in pure science, and in medicine Virchow, Liebermeister, Charcot, Spencer Wells, Weir Mitchell and others. The whole list was read first, and then the names called one at a time. As each went up, Dr. Guerrachi bowed, the Rector put on the finger of the *laureatus* a huge emerald seal, emblematic of marriage and fidelity to the University, then both greeted him, shaking hands. The Rector presented an illuminated diploma with a great seal, the recipient advanced, bowed to the King and Queen, who bowed in return, retired a few steps backward, and went down to his seat, amid the cheers which greeted all in turn. The Italian crowd cast fragrant bay leaves down upon the *laureati* as they went back through the streets.

A CANNABIS INDICA MIXTURE FOR PHTHISIS.

To the Editor of THE MEDICAL NEWS,

SIR: Dr. Bradshaw, in his article on "Some Points in Treatment at the Memorial Hospital, Orange, N. J." (THE MEDICAL NEWS, June 30, 1888), refers to a cannabis indica mixture I introduced into hospital use, and gives its formula. That was the one used several months ago. The mixture, as thus prepared, is very pungent and to some persons distasteful.

Messrs. Parsons & Co., of Orange, have, at my request, altered the original formula so as to make it read as follows:

Tr. cannabis indicæ	f 3viii.
Ext. verbas. thap. fl.,	
Ext. verben. hastat. fl. (known as	
blue vervaine)	aa f 3v f 3ij.
Syr. simp.	Oj.
Elix. aurant.,	
Tr. aromat.	aa f 3xij.
Mel. despumat.	f 3xxxij.
Spts. chloroformi	f 3iv.
Sig.—3j to 3ss p. r. n.	

This is an elegant and palatable mixture, and affords great relief to many who use it. In some instances it increases the appetite, seldom impairs it; does not nauseate or constipate; hence, may be taken for long periods without harm.

Very truly yours, J. W. STICKLER.

EARLY MEMORY.

WE have received the following interesting note from a correspondent whose professional eminence is an unqualified endorsement of the accuracy of his observation:

To the Editor of THE MEDICAL NEWS.

I have recently seen in the medical journals that "Dugald Stewart was once asked what was the earliest thing he could remember. He said it was being left alone by his nurse in the cradle, and resolving to tell of her as soon as he could speak."

This may have been copied as a joke; but it brings to my mind the following statement that I have made from time to time for many years, which has always been received with derision, but which is a perfectly distinct remembrance in my mind: I remember being jolted over the crossings, in a baby-wagon, by a nurse, and resolving to tell of her as soon as I could speak.

June 9, 1888.

NEWS ITEMS.

The German Physicians of the late Emperor Frederick have published a statement concerning their participation in his case, an abstract of which has been cabled to the Associated Press and appeared in the daily papers. They state that in May, 1887, they pronounced the disease to be cancerous and recommended that the larynx be opened and the growth on the left vocal cord be excised—"a small operation which promised the best results." Of seven such operations which Von Bergmann had performed, all were successful. Sir Morell Mackenzie was then called in and opposed the operation and, the report states, gave his assurance that after a few weeks of treatment the patient would recover his voice and be able to command the autumn manœuvres. Dr. Gerhardt accuses Mackenzie of having removed for microscopical examination by Virchow pieces of tissue from the unaffected part of the throat.

Dr. Schroetter states that when he first examined the patient's throat in November, 1887, he decided that he was suffering from a cancer so far developed as to make it necessary to extirpate the larynx. Mackenzie, he says, then admitted that the growth looked like a cancer, but the Emperor Frederick refused the plan of extirpation because of the risks attending it. The German physicians thereupon signed a declaration placing the responsibility of the case upon Sir Morell Mackenzie.

Sir Morell Mackenzie is reported to have unqualifiedly denied the correctness of the above statement by the German physicians, and that in the course of a few days he might be able to publish a statement of the details as to the character and conduct of the case, from which, at present, he is precluded by State reasons.

International Congress of Dermatology.—Amongst those who have already accepted office in connection with the International Congress of Dermatology to be held in Paris in August, 1889, are: Dr. Ricord, Honorary President; Professor Hardy, President; MM. Emile Vidal, Ernest Besnier, Alfred Fournier, Hallopeau, Quinquaud, Tenneson, Henri Feulard, members of the Initiative Committee.

The South American Sanitary Congress.—*La Cronica Médica* of Peru publishes the articles agreed to at the American Sanitary Congress recently held at Lima, and signed by the delegates of Bolivia, Chili, Ecuador and Peru. The Congress had for its object the establishment of an international sanitary system amongst the South American States, with a view of checking the development and spread of infectious disease, especially cholera and yellow fever. Plague is also mentioned as a form of disease which is to be considered as coming under the regulations. The scheme provides for intelligence offices in each country, from which information as to the existence and progress of an epidemic shall be forwarded as promptly as possible—by telegraph in some cases—to the sanitary offices of the other South American States. A large number of minute instructions as to the use of disinfectants are drawn up, and a number of stringent rules relating to the admission of ships from ports where infectious disease exists to *pratique* are laid down. The time of quarantine in case of cholera is to be eight days,

and that in case of yellow fever ten days. Ports are in no case to be closed.—*Lancet*, June 30, 1888.

An Exhibition of Life-saving Fire Apparatus.—The strong public feeling aroused by the recent calamitous fire in Edgware Road as to the urgent necessity of all houses, especially large business premises where the higher rooms are occupied as sleeping apartments, being provided with ample and suitable appliances for securing the speedy escape of the inmates in case of fire, has led Dr. George Danford Thomas, coroner of Middlesex, to arrange for a display of life-saving apparatus and the various methods of preventing and extinguishing fires. This exhibition will be held at the Portman Rooms, Baker Street, W., at the end of July next, where the public will have an opportunity of being instructed in the use of fire-escape appliances and of testing their value.—*British Medical Journal*, June 30, 1888.

St. Joseph's Hospital, in Vienna, has received a donation of 50,000 florins (about \$20,000) from Nathaniel v. Rothschild, for the erection and maintenance of an isolated ward for the care of children with infectious diseases.

Artificial Maturation of Wine by Electricity.—Signor F. Mengarini has published some results obtained by passing a powerful current of electricity, equal to nearly four milliampères, through various samples of Italian wine. Some acetic acid was found, and a perfume was imparted to the wine similar to that acquired by maturing. It is suggested that, if electricity can be made to destroy the mycoderma aceti so as to prevent the formation of acetic acid, it may prove a valuable method of treating wine. It is well known that it was at one time proposed to add salicylic acid to wines with this object. These are not the first experiments of the kind that have been made, as a short time ago Blaserno and Carpena examined the effect of the galvanic current on wine, and found that artificial maturation was thus induced, or, at all events stimulated, various oxidation products being formed.—*Lancet*, June 30, 1888.

Ladies' Kiosks in London.—The International Hygienic Society has done good work in a new direction, and the action it is now taking in supplying a much-felt, but unspoken, want of ladies in the shopping and promenading districts of the West-end, and of the working women in business thoroughfares, will certainly be one of the most important benefits that could be conferred upon these classes. The want has been a well-arranged place, where for a small sum a lady at a distance from home may retire to refresh herself with the necessary comforts of a lavatory, and where also she can rest for a little in quiet, write a letter and leave or receive parcels. The institution to be known as "The Ladies' Kiosk" will meet this want in a liberal and common-sense manner, and at a trifling charge. The Society named, proposes to place these kiosks in requisite quarters over London, and, having obtained two sites from the Duke of Westminster, has already nearly finished two buildings in two of the most frequented districts—in Grosvenor Street and Park Street.

The kiosk in Grosvenor Street is situated at the corner of that street and Avery Row, and is only forty yards

distant from Bond Street. It is Italian in style, is faced with white bricks, and has stone dressings to the door. On entering, there is a small vestibule to be devoted to cut and other flowers—the former for sale—opening into a lobby with a marble dado and decorated walls. This lobby leads into a passage, from which open three apartments, with excellent sanitary arrangements and a communicating bell in each. The floor above has two more apartments, and close to, but quite separate from them a handsome lavatory, fitted up with two basins, with hot and cold water. There is also a dressing-table with general toilet requisites. The top floor contains a room for the attendant, who will live on the premises. On this floor is the water cisterns room. In the basement is the kitchen and living room of the attendant, and also a place with shelves for the storage of parcels. The attendant will be prepared to serve tea at a fixed tariff should it be called for. The building is heated in winter by hot water, and is lighted throughout with gas. The structure is highly ornamental, rounding off as it does the angle formed by the two streets, and thus obtaining a very prominent position. The kiosk in Park Street is similar in internal treatment, but is slightly larger, and has also the advantage of a writing room with appropriate furnishing. It stands close to the Marble Arch and Hyde Park. The cost of the two erections is stated to be £3000.—*Nursing Record*, June 28, 1888.

Dr. George v. Adolmann, Emeritus Professor of Surgery and Ophthalmology at the University of Dorpat, died at Berlin, on June 16th, aged seventy-seven years. He was graduated at Marburg, in 1835, and became an assistant at the medical clinic of Heusinger. In 1837, he was made an assistant at the surgical clinic of Ullman. In 1841, he was called to the chair of Surgery at Dorpat, made vacant by the departure of Pirogoff for St. Petersburg, which position he held for thirty years, until 1871, when he was made Emeritus Professor. He then removed to Berlin, taking a lively interest in scientific questions. He was a frequent contributor to medical literature. He presided at the last meeting of the Union of Berlin Surgeons, on June 4th.

The funeral ceremonies were held on June 19th, in the chapel of the Surgical Clinic of the University. A eulogy was pronounced by his former pupil and son-in-law, Prof. v. Bergmann.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 3 TO JULY 9, 1888.

BENTLEY, EDWIN, *Major and Surgeon*.—Retired from active service, July 3, 1888, by operation of law.—S. O. 153, A. G. O., July 3, 1888.

CROSBY, WILLIAM D., *First Lieutenant and Assistant Surgeon*.—Leave of absence extended one month.—Par. 8, S. O. 151, A. G. O., June 30, 1888.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING JULY 7, 1888.

CRANDALL, R. P., *Assistant Surgeon*.—Detached from the U. S. S. "Saratoga," and ordered to the U. S. S. "Galena."

PECK, GEORGE, *Medical Director*.—Placed on the retired list, on the 9th instant.